

THE
AMERICAN
AGRICULTURIST.

FOR THE
Farm, Garden, and Household.

"Agriculture is the most Healthful, the most Useful, the most Noble Employment of Man."—WASHINGTON.

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The stars or asterisks (*) in the following Index show where engravings occur, and the figures show their number. Articles referring directly or indirectly to Bees, Cattle, Buildings, Insects, Manures, Trees, etc., will be found under these general heads.

A

Accidents with Farm Implements.....	69
Accounts—Balance them Now.....	364
Acre—Profitable.....	69
Advertisements—Endorsing.....	102
Noticing.....	259
Agricultural Department at Washington.....	224
Society of N. Y. State—Meeting.....	57
Society of N. Y. State—Officers.....	102
Societies—Hints to.....	259
Societies, etc.—Special Notice to.....	41
Agriculture—Poem.....	112
Agriculturist—Royal—Honor to.....	205
Aloe—American, on Exhibition.....	181
Alsike or Swedish Clover.....	230
American Agriculturist—Keep Files.....	6
Its wide Influence.....	326
Letter on.....	326
Thoughts on Commencing the Twentieth Volume.....	1
Analysis of Soils.....	206
Animals and Plants—Relative Size of.....	293
Branding in Texas.....	269
Comfort necessary to Thrift.....	16
Disease Among.....	102
Diseased—Treatment of.....	294
How Shelter saves Food.....	14
How to Improve.....	294
Insurance on.....	268-362
Keep Comfortable.....	363
Keep Farm Stock Thriving.....	300
Principles regulating Breeding.....	330
Apple in Bottle.....	324
Paler—"Return Table".....	259
Pie Melon—Substitutes for Apples.....	119
Apples and Wheat from Minnesota.....	293
Counterfeiting.....	146-324
Dish of—Good Sorts.....	18
For Minnesota.....	166
Good for Cows.....	42
In Newspapers.....	292
Keeping.....	367
Keeping in Germany—American Fruit Cellar.....	337
Keeping Quality—Note on Vir- ginian.....	110
Packing in Leaves.....	278
Preserving in Sawdust.....	337
Reports on best for different Lo- calities.....	110-143-177
Seedling from Illinois.....	357
Which are Best—Request.....	49
April Suggestions—Farmers' Hopes.....	97
Aquarium—Care of.....	310
Fresh Water—Management of.....	150
Salt Water—Management of.....	181
Ashes—Coal on Grass Land.....	117
Coal—Use for.....	75-357
On Sandy Soil.....	102
Asparagus Beds.....	323
August—Suggestions—Insect Life.....	225

B

Baby—The Sin that Killed It.....	183
Babydom.....	86
Bag Holder—Old's.....	362
Bag—How to Tie.....	171
Bags versus Boxes.....	246
Barley—Nepaul Variety.....	261
Seed—Soaking.....	103
Winter.....	326
Barometer—Mercurial.....	259
Barrelling Fruit—Contrivance for.....	24
Barrels—Musty—How to Cleanse.....	6
Basket Items—500 Wanted.....	25
Place of Changed.....	68
Baskets—Hanging for Plants.....	3
Bast for Mats and Budding.....	135
Beans—Barren.....	326
Chinese Climbing.....	356
Drying Limas.....	229
Horse.....	198-228
Limas Perennial.....	326
Notes on Early.....	245
Self Drying.....	356
Stacking.....	292
Bedrooms—Ventilation of.....	278
Beef and Pork—Directions for Packing.....	343
Pickle for.....	357
Bee-Hives—Glass Boxes on.....	103
Straw—A Word for.....	109
Bee-Pison in Buckwheat.....	230
Beer-Sed—California.....	69
Bees—Absconding.....	197-229
AFRANT in January, 3—Feb., 35— March, 67—April, 101—May, 133 —June, 164—July, 196—Aug., 228—Sept., 258—Oct., 291—Nov., 323—Dec.....	354
Are Birds Destructive?—Prolific.....	103
Are Movable Frame Hives Best?.....	77
Candy for.....	293
Domestic Animals.....	69
Feeding.....	324
Honey from Pine and Oak Trees.....	13
In War.....	260

Bees—Interesting Experiments with.....	301
Keeping out Moths.....	68
Mignonette for Feeding.....	266
Oil Cake for—Amount of Honey Needed.....	293
Sagacity of Humble Bees.....	14
Senses of—Curious Structure of their Wings.....	14
Starting an Apiary.....	78
Stingless of Central America.....	76
Sundry Notes on—Italian.....	109
Bees—Truant; Cross Breeds.....	36
Wintering in the Cellar.....	301
Beets—Information Asked.....	69
Sugar—Abuse of.....	12
Sugar—How to Raise.....	108
Yield of.....	356
Beginner's Troubles—Raspberries— Planting Trees.....	239
Berries in October.....	323
Yield per Acre.....	47
Bird Laws—Enforce the.....	109-357
Birds—Blue Jay in the Corn Field.....	71
Familiar and Useful Notes— No. II—Snow Bird.....	13
No. III—The Barn Owl.....	44
Larks Wanted.....	69
Prairie Hens on Long Island—In England.....	198
Starlings or Parrots.....	229
The Wren and Bees.....	331
Blackberry—New-Rochelle—How to Plant.....	83
Blackberries—Distance for Planting.....	323
From Cuttings.....	103
Protecting.....	292
Bleeding—To Stop.....	118
Blunders—Undertaking too Much— Draining—Dahlias.....	239
Boiler—A Cheap.....	10
Bone Mill—A Good Wanted.....	317
Bones—Dissolving.....	293
Book on Education—Valuable and Im- portant.....	86
Mark—Neat.....	230
On Evergreens.....	103
Singing for Children.....	230
Wood's Botany.....	68
Books—American Cyclopaedia.....	26-291
American Herd—Pronouncing Bible—Central Park—Old Mackinaw.....	26
American Short Horn Herd Book —Bee Books—Military Surgery.....	197
For Farmers.....	166
Grape and Hedge.....	26
On Barns, etc.....	326
Boots and Shoes—Patent Leather.....	214
And Shoes—Wooden Soled.....	135

BOYS' AND GIRLS' COLUMNS:

January—Editor with his Young Readers—A Happy New-Year— Trick that did not Pay—Uncle John's Study, No. II.—Problems —The "Digger Indians of Cali- fornia".....	4*, 23-24
February—Uncle John's Study, No. III.—Editor with his Young Readers—Smart Boys—"Blie Bigger, Billy"—Problems—Our New Pet—How Tom was Caught —John Brunt and his Friend "Sharpy".....	4*, 55-56
March—Editor with his Young Read- ers—Capital Picture—Amusing Games—Shaking Hands—A Big Dictionary for the Boys and Girls —Uncle John's Study, No. IV.— First American Poetry—Smart Reply—Questions for Young Phi- losophers—Problems—Ough.....	3*, 88-99-100
April—Editor with his Young Read- ers—The Hour Glass—What will You Plant?—Looking into the Horse's Mouth—The Doctor's Fee—"A Farmer I will Be," Ori- ginal Song by Wm. B. Bradbury —Problems—Language Changes, etc.....	2*, 120-122
May—Editor with his Young Read- ers—"Happy as a King"—"I Didn't Think"—Speak Gently— Amusing Dog Lawsuit—The Ar- madillo—A Knowing Dog—Look before you Run—Rocking Babies to Sleep—A Little Girl Out-argues the Editor—Uncle John's Study, No. V—Philosophy of the Magic Plate—Problems—The Simple Secret, etc., etc.....	3*, 152-154
June—Editor with his Young Read- ers—About the Picture—A Noble Boy—About Names—Days of the Week—Type Setting—Amusing Mistakes—The "Star Spangled Banner," Words and Music—The Cunning Will—Problems.....	184-185
July—Editor with his Young Read- ers—The "Scare Crow"—An In- cident of the War—A Young Pa- triot—A Farmer Boy's Letter— A Valuable Crop—Definitions of War Terms: About Gunpowder; Cannons; Projectiles—Problems, etc.....	10*, 216-218

August—Editor with his Young Read- ers—Explanation of War Terms, No. II.—Organization of an Ar- my—An Eventful Period—How to Learn Geography—Learn to Punctuate—Problems, etc., etc.	13*, 248-50
September—Editor with his Young Readers—About Picture of Pet —Rabbit—A Little Girl's Logic— Lizzie and her Flower Seeds— Nobody's Baby—Caught in his own Trap—Explanation of War Terms, No. III—How to Distin- guish Officers of the Army—Prob- lems—How the Angels do it— The Silver Rule.....	16*, 280-282
October—The First Day at School— How a Boy paid for the Agricul- turist—The "Know How"—A Luscious Peach—A Noble Boy— The War and Corns—About the Treasury Notes, etc.—The Brave Gander—The Dandy's Ruse—A Living Hippopotamus—Problems	2*, 312-314
November—The Young Musician—A Mistake—Children's Flower Gar- dens—Maps of the Seat of War— Problems.....	5*, 344-49
December—Editor with his Young Readers; The Christmas Tree; How Many Soldiers—Thanks to Little Agents—Boys' Tool Chest —Problems.....	2*, 374-375
Boys—Bad Custom.....	105
Breadstuffs—Home Trade in.....	328
Immense Sales.....	358
Prices of—All Interested.....	327
Breakfast—Early—Advantages of.....	214
Bridges—Sleighs on.....	35
Broom Corn—Dwarf.....	71-102-134-229
Buckwheat Cakes.....	54-372
Directions for Sowing.....	203
Buffalo Berry.....	103
Buildings—Decay of.....	35
Bulbs in Pots.....	57
Take Care of the.....	245
Bushel Box—Size of.....	259
Butter—Increased Yield.....	69
Keeping Sweet.....	138
Making—Experiment in.....	138
Premium.....	326
Sweet in Winter.....	357
Too Good for Market.....	13
Buying Implements, Plants, etc.—New Enterprise.....	124-134

C

Cabbage Tree—Wonderful.....	179
Cabbages—Hints on Raising.....	179
How to Keep in Winter.....	296
California Farm.....	25
Fruit and Horticulture in the Mountains.....	51
Canada Letter—Hubbard Squash, etc.....	71
Canadensis P. O.....	323
Carrot Culture.....	25
Seed per Acre.....	102
Value of.....	11-43-68-80-139
Cartage of Manures—Saving.....	330
Carts—Broad Tires for.....	206
Castor Oil—Palatable.....	151
Cattle—Abortion in Cows.....	58
American, Good Prices for.....	228
Are American Improving?.....	41
Black Leg in Calves.....	238
Blooded Stock sent to England.....	245
Caked Bag in Cows.....	324
Care of Cows.....	362
Chewing Bones.....	359
Disease—Petition to Congress.....	43
Double Calf.....	69
Feed for Weaned Calves.....	173
Good in Penn.....	69
Good Stock Cheapest.....	42
Graining Young—Root Feeding.....	173
Great Sale of Herefords.....	259
Horn Ail not a Disease.....	173
How to Feed Calves.....	238
Keeping Clean.....	58
Large.....	72
Lice on.....	166
Oxen—How to Throw.....	16
Portrait of a Model Cow.....	42
Premium proposed for Steers.....	238
Raising late Calves—Fatal Dis- ease.....	198
Sucking Heifers.....	198
Cattle's Horns—Preventing their growth.....	58
Cauliflowers—Heading.....	356
Celery between Corn.....	357
Blanching with Sawdust.....	229
How to Raise.....	115
Cellars—Jack Frost in.....	17
Under Barns.....	296
Wet—To Improve.....	69
Cement Drains for Water.....	293-356
For Bottles.....	197
For Crockery, etc.....	87
For Glass, etc., under Water.....	68
Census—Population of U. S. in 1860.....	231
Cheese—Amount Exported in a Year.....	261
Making.....	135-269
Making—Experience in.....	206

Cheese-Making—Improvement in.....	206
Press—A simple.....	301
Chess and Wheat.....	78-171-197
Instructive Experiments in Re- producing.....	330
Chicago Grain Market—Immense Re- ceipts.....	230
Children—How to Keep Healthy.....	53
Children's Aid Soc.—Appeal for.....	124
Sleep—Practical Suggestions.....	53
Studies—Bad Practice.....	372
Chimneys—Cement Pipe.....	230
Chrysanthemums—Chinese.....	19-324
Chufa—Information Wanted.....	204
Churning—Novel Mode of.....	166
Churns—Puff for Two.....	10
Cistern—Cement—Cheap Method of Building.....	334
Cisterns in Barns.....	334
Cities of U. S.—Population and Rank.....	40
Climbing Plants—Adorning Rough Places.....	180
Cloth—Non-Inflammable.....	327
Clothes Wringer—Recommendation of.....	228
Clothing—Change of—A Caution.....	86
Cheap—A dear Bargain.....	278
Clover—Curing—An old Notion.....	171
In an Orchard.....	209
Large Growth.....	329
Roots and Tops for Manure.....	69
Seed—Saving.....	171
Sweet Scented.....	259
Coal Oils—Valuable Property of.....	69
Coffee and Cotton in Africa.....	270
Condensed.....	259
Culture—Notes on.....	2*, 52
Hints on Choosing and Preparing.....	182
Cold—To Avoid Taking.....	58
Consumptives—Cream vs Cod Liver Oil.....	278
Copper—Never Cook in.....	247
Coppers as a Disinfectant.....	259
Corn Bread Exhibition at this Office— \$21 in Premiums Offered.....	372
Coverer—Cheap.....	108
Crisps—Stoves for.....	57
Crop—Premium—A Query.....	69
Early Germination of Seed.....	108
Egyptian—Humbog.....	25-134
Frozen Seed.....	6-138
How Iowa Boys Raised.....	78
Humbog—Egyptian and Chinese.....	25
In Connecticut—Good—The "Ar- gument Acre".....	46
In the Crib—Measuring.....	259
Late Gathering—More Good.....	135
Planter—Cheap.....	165
Protecting from Cut Worms and Crows.....	135
Remedy for Birds.....	165
Selecting Seed.....	165-260
Silk Medicinal.....	357
Sow for Feeding.....	170
Stalks for Milch Cows.....	165
Stalks—Save the.....	298
Steaming Soft and Frozen.....	236
Tall, and a Great Deal of it.....	25
Transplanting.....	200
Trying Seed.....	35
Cosmopolitan Art Association.....	26
Cotton from Milk Weed.....	293
Hardy.....	227
In Africa.....	270
In Utah Territory.....	165
Peruvian.....	57
Raising in the Colder States.....	295
Cranberry—Botanical Name for.....	135
Cranberries—From Massachusetts.....	51
Good Location.....	103
Highland.....	50
Crochet Work—Elementary Instruc- tions—Woolen Undersleeve.....	3
Crop Reports—Reliable Wanted.....	224
Crops in Iowa Injured.....	324
Reports on.....	251-284
Crowbar—Use the.....	175
Culture—What Kind Pays Best—Stick a Pin Here.....	35
Currant Jelly—Notes on.....	247
The Cherry.....	165
Value of Black.....	58
Cuttings—Hint on Striking.....	273
Rose—Striking.....	371
Cypress Vine Seeds.....	326

D

Dahlia—A Hint for the.....	307
Dahlias from Seed.....	198
Etc.—Look to.....	19-275
Retrograding.....	357
Variegated.....	357
Dairy Farming on Long Island.....	38
Profitable.....	139
December—Suggestions—Sheep.....	353
Dictionary Premium.....	134
Digging Match.....	25
Dioscorea Batatas Homeward Bound.....	204
Dogged Advertisement.....	38
Dogs—Costly—Heavy Tax.....	17-25-68
Door Catch—Self-Fastening.....	41-108
Drained Land—Questions—Winter Killing.....	134
Draining and Transient Showers.....	19*
Cost of.....	102
Extensive.....	6
Fall Required.....	220

Draining—Successful.....	260
Where—When—How—No. I—	
Benefits of Draining.....	36
No. II.—Where to Drain.....	70
No. III.—Character of Soil—How	
to Drain.....	2* 105
No. IV.—Open Ditches—Well	
Drains.....	2* 137
No. V.—Wood and Stone Drains.....	6* 169
No. VI.—Tile Drains.....	10* 200
No. VII.—How Tiles are Made.....	5* 232
No. VIII.—Laying out Drains.....	7* 264
No. IX.—Books; Finding Defects;	
Making Plans; Leveling.....	5* 297
No. X.—Depth; Distance; Dig-	
ging; Traps.....	3* 329
Mole Plow.....	168
Questions.....	134
Drains—Open Ends of.....	293
Pipes for House Slops.....	137
Picking for.....	102
Tile—Choking—Wood—Siphon.....	228
Unprofitable—Paying Interest.....	73
Drills vs. Hills.....	360
Which Way should they Run?.....	265

E

Economy—Not True.....	326
Editors Humbugged.....	72
Egg Plants—Raising and Cooking.....	180
Eggs—Preserving.....	309
Value for Food—Preserving.....	246
Elgin—How Pronounced.....	103
England—Imports of in Three Months.....	237
Land Cultivated—Work for the	
Steam Plow.....	265
Engraving—Fine.....	323
Exhibition—Brooklyn Hort. Soc.....	245-292
N. Y. State Agricult. Society.....	165-292
Tables at Agricultural Office.....	3-92 187-250 255 317-350
Exhibitions—Agricultural in 1861—	
Time and Place of.....	251-262-314
Eyes—Care of.....	245

F

Fair—Queens Co., N. Y.....	323
Westchester Co., N. Y.....	323
Worlds in 1862.....	205-236-323
Fairs—Paying Judges.....	357
Fall Work—A few "Chores".....	298
Fallow for Fall Crops.....	201
FARM—CALENDAR for Jan., 2—Feb., 34	
March, 66—April, 98—May,	
130—June, 162—July, 194—	
Aug., 2-6—Sept., 258—Oct., 290	
Nov., 322—Dec.....	354
Farm—Laying out—Economy in Pen-	
ciling.....	139
Scenes—Spring, Summer, Au-	
tumn, and Winter—Illustra-	
tions by Darley.....	4* 110-238-336
Farmer the True Aristocrat.....	8
Farmers' Club—Glen Cove.....	323
Club—Keep it up.....	17
Farming—The Great End in.....	300
Feather Beds.....	118
February—Suggestions—Proper Treat-	
ment of Animals.....	33
Feeding Boxes vs. Racks.....	363
Rack—Portable, Wire.....	9
Feet—Frosted—Chilblains.....	118
Fence Posts—Setting.....	325
Fences—Inclined Board.....	107
Wire.....	9
Fencing—A Durable Bar-post.....	300
Fig Trees—Raising.....	326
Files—For Papers.....	26-188-240-255
Fires—Extinguishing—Hints on.....	214
Firkin—Convenient Way of Hooping.....	151
Fish Culture—Information Wanted.....	293
Flagstaff—Douglas Pine.....	198
Flax Competing with Cotton.....	170-357
Cotton Premiums.....	251-259
Flower Baskets—Rustic.....	3* 20
Beds—Position of.....	275
Garden—An Improvment.....	148
FLOWER GARDEN AND LAWN—CALEN-	
DAR for Jan., 2—Feb., 34—Mar.,	
67—April, 100—May, 132—June,	
163—July, 195—August, 227—	
Sept., 258—Oct., 290—Nov., 322	
Dec.....	354
God Seen in the.....	175
Seeds—Save the.....	307
Flowers—Cactus—Pin-Cushion.....	25
Chinese Chrysanthemums—Best	
Sorts.....	19-324
Drying in Sand.....	326
Early—Desirable Sorts.....	113
Everlasting.....	356
Fadless—Helichrysum; Lupi-	
nus Nanus; Pink; Commelyna.....	260
Green Rose.....	166
Herbaceous Perennials—Value	
and Cultivation of.....	146
In the House—Keeping Bouquets.....	276
Mammoth Poppy—Aloe.....	198
Monster Arum—Escholtzia Per-	
ennial—Maurandia Barclayana	
—Dianthus Coccineus—Cobaea	
Scandens—Roses and Acacias in	
Borders—Tea Roses not Hardy.....	229
New Chrysanthemums.....	3* 244
Passion Flower.....	180
Perennials—What to Cultivate.....	146
Petunias.....	244
Pin-Cushion Cactus.....	356
Prairie.....	356
Single male Double—Petunias.....	135
Sketches of—Standing Cypress.....	25
Standing Cypress—Single Made	
Double—Petunias—Wistaria.....	103

Flowers—Stuartia and Wistaria.....	102
Tritoma Uvaria—Experience.....	48
Tulips from Seed—Wild	
from California—Acrolinium	
Roseum—Collinsia Bi-color—	
Convolvulus Tri-color—Tufted	
Vetch.....	230
Verbenas—How to Raise.....	275
Wilmer's Laura Pink.....	20
Wintering Carnations.....	244
Food—Cheap.....	311
Cheap for War Times—Thirty	
three Ways to Cook Corn.....	341-43
Frost in the Garden.....	257
Frozen Plants—How to Treat.....	19
Fruit and Flower Decorations.....	276
Apparatus for Drying.....	277
Cellar—Improved.....	367
Gatherer—Cheap and Conveni-	
ent.....	209-273-309-367
Hot Beds for Drying.....	292
In Minnesota.....	274
On Hillsides.....	102
Outlines—To Take.....	102
Save it.....	245
Stealers to be Felons.....	57
To Grow Large.....	230
Fruits Grown in Bottles.....	18
How to Judge of.....	19
Preserving—Noyce's Method.....	103
Wild in Iowa.....	260
Fuel—Hint for December.....	364
Furniture—A Man's Views.....	85

G

Galvanism for Slugs and Snails.....	273
Garden—Children's Corner Important.....	339
Draining Beneficial.....	25
How to Show and How to View.....	243
Kansas.....	25
GARDEN—KITCHEN AND FRUIT—CALEN-	
DAR for Jan., 2—Feb., 34—	
Mar., 66—April, 99—May, 131—	
June, 163—July, 195—Aug., 227	
Sept., 258—Oct., 290—Nov.,	
322—Dec.....	354
Kitchen and Fruit—Preparing	
for Winter.....	338
Love of the.....	277
On the Housetop.....	2* 116
Plants—How to Start Early.....	79
Gardeners—Lady.....	229
Wages.....	25
Gardens for Health.....	147
Gas Lime—Johnson's Opinion—Expe-	
rience with.....	75
Gift Enterprise in Kentucky.....	102
Girl—Hiring a.....	151
Gleaners in France—Rights of.....	336
Goat—Plea for the.....	363
Grafting Wax—How Made.....	102
Grain Crop of the West.....	68
Feeding vs. Sellings.....	364
Immense Stock of.....	292
In Chicago.....	324
Measurer—Convenient.....	336
Raise one Bushel More.....	136
Winter—With Buckwheat.....	263
Grape Culture—A Hint in—Layering.....	147
Cuttings—Preserving.....	324
Grafting the.....	83
Growers' Meeting in Connecticut.....	57
Growing on Kelley's Island.....	47-357
Layers.....	292
Leaf—Large.....	260
New—The Skunkmunk.....	210
Vine—Mechanic's.....	323
Vines—Bleeding—To Prevent.....	134-335
Vines—Protecting.....	323
Grapes, Cold Frames, and Hot-Beds	
for the Million.....	6* 272
Cold—Queries.....	292
Grapes—A French Vineyard.....	210
Best Soil for.....	103
California.....	68
Dwarf or Shrub.....	103
Fine Delaware.....	325
For the North.....	25
For Wisconsin.....	198
Growing for Forcing.....	273
Hardiness of—The Delaware—	
Stakes for.....	166
Harvard.....	49
How to Start a Vineyard—Profits.....	209
In Cities and Villages—How to	
Raise.....	338
In Dwellings—How far Apart?.....	260
Keeping.....	324
New Seedlings—Raising.....	325
Notes on Newer.....	19-49-367
Ripening Isabella.....	49
Second Crop.....	356
Training.....	241
What shall I Plant?.....	114
Wild Texas.....	25
Wild—Market for.....	229
Grass Culture—Experiment in.....	47
Cutting next Year's.....	207
For Prairies—Red Top—When	
to Cut.....	155
New—From California.....	25
Orchard.....	356
Pampas.....	12
Seed—Sow this Month.....	71
Seed—Sowing Thickly.....	259
Seed with Oats.....	102
Grasses—Dried—Preparing.....	25
GREEN AND HOT HOUSES—CALENDAR	
for Jan., 2—Feb., 34—Mar., 67—	
April, 101—May, 133—June, 164	
—July, 195—Aug., 228—Sept.,	
258—Oct., 291—Nov., 322—Dec.....	354
House on a Hill Side.....	198
Houses for Invalids.....	47

Green-Houses for the People—No. I. 3*	308
Houses for the People—No. II. 4*	340
Houses for the People—No. III.	
An Independent Green-House	
—Method of Heating.....	6* 370
Greenwood Cemetery.....	303
Griddles—Soap Stone not Good.....	69
Guess Work in Farming—Account	
Books—Platform Scales.....	364

H

Hams—To Prevent Skippers.....	68
Hard Times—Housekeeper on.....	371
Harvest Time.....	208
Hawthorns—Flowering.....	324
Hay and Grain Caps—Try them.....	197
Mows—Air Duets for.....	207
Mows—Spontaneous Combustion.....	259
Salting.....	197
Haying Time—Hints for.....	207
Hedge Plants—Distance Apart.....	103
Hedges—Chapter on.....	3* 302
Norway Spruce.....	103
Osage Orange.....	135-177-211
Privet not Hardy.....	50
Shelter for Fruit Garden.....	50
Highway—Clear up the.....	335
Holy Land—Items from.....	18
Home—Poor Man's Pleasant in the	
Country.....	211
Questions for the Household.....	182
"Homestead" Transferred to Agricul-	
turalist.....	258
Horse—A Large.....	166-229
How to Choose.....	300
Largest in the World.....	69
Oldest on Record.....	259
Power—Sanford's Improved.....	2* 237
Power—Unit of.....	325
Shoes for Snow.....	326
To Hold Hard-headed.....	238
What is a Sound Animal.....	198
Horses—Administering Medicine to.....	109-166
Aged.....	25-69
And Cattle—Warts on.....	166
Colic—Cure for.....	68
Cost of Keeping.....	141
Dentistry for Dobbin.....	269
Effects of Hungarian Grass on.....	268
Engraving from Landseer.....	144
Feed for.....	228
Feet—Corns on.....	331
Galls on.....	141
Graining Colts.....	362
Hair Oil for.....	205
Herbert's Book.....	68
Loss of Appetite in.....	102
Origin of Morgan.....	230
Period of Gestation.....	267
Ring Bone.....	166
Spavin—Remarks on.....	72
Stabling with Cattle.....	103
Stumbling—To Cure.....	37
Two Hours with Mr. Rarey.....	36
Why they Kick—Rarey's Cure.....	238
House Plan—Mr. Bishop's Premium.....	165
Household Department—Objection An-	
swered.....	58
Embellishments—Home-made.....	327
Humburg—Agricultural at Washington.....	189
Medical.....	198
Humburgs—Banquet—New Dodge.....	296
Grand Banquet—Recipe Peddlers	
—Silvering Powder.....	3* 332
In New Hampshire.....	357
Mock Auctions.....	365
What they are Doing—No. I—	
Gift Enterprises—A Charming	
Home—Lotteries, etc.....	6-7
What they are Doing—No. II—	
Advertised "Doctors" etc.,	
—Another Seed Swindle.....	38
What they are Doing—No. III—	
Japanese Wheat—Editors Hum-	
bugged—Bogus Jewelry—Tree	
Peddlers—Rats.....	104
Husbands—Short Lecture to.....	310
Husking Peg—Simple.....	9
Hyacinth—How to Grow the.....	306
Hyacinths in Glasses.....	341-369
Hydrangeas not Hardy.....	356
Hydraulic Ram—Notes on.....	236
Hydropult at Palace Garden.....	91

I

Ice House—Cheap Way to Make.....	332
Idea—Unwise.....	57
Ik Marvel—Truthful Hints by.....	44
Illinois as a Farming State.....	58
Good for—W. L. Russell Fined.....	323
Lands—Answer to Inquiries.....	172
Notes from.....	43
Inarching or Grafting by Approach.....	2* 117
Indians—"Digger" of California.....	2* 24
Insect Powder—Coal Tar.....	102
Insects and Onions.....	324
Aphides—Borers—Turnip Fleas	
Wire Worms.....	103
Aphides on the Aster.....	306
Apple Borer on Slate Lands.....	83
Army Worm.....	263
Army Worm and Draining.....	331
Army Worm—Plum Tree Borer	
—Worms among Pot Plants.....	197
Borer—Notes on the.....	209
Borers Caught—"Napping".....	306
Destroying Earth Worms.....	292
Earth-Worms—Wire Worms.....	69
From Illinois.....	25
Grain Aphids.....	263
Grub Worms Destructive.....	25
Grub Worms—Destroying.....	57
Harris on.....	68

Insects—Hen Manure—Cut Worms under	
a Plank—Ants Injuring Pot-	
onies—Camphor for Pea Wee-	
vil—Currant Bush Borer—Apple	
Tree Insects—Lice—Scale	
on Osage Orange.....	198
Hens vs. Bugs.....	369
Hornets and Wasps Serviceable.....	230
Lice or Scale on Trees.....	83
Microscopic Views—Pigeon Tre-	
mex—Pimpla Vividus.....	10* 140
On Evergreens.....	51-506
On Trees—To Repel Earth	
Worms.....	58
Onion Maggot—Preventives.....	166-259
Pea Weevil—Polyphemus Moth—	
Destroying Green Fly—Wheat	
Insects—Sulphur for Potato	
Bugs—Soot for Garden Fleas—	
Tobacco for Roses.....	135
Potato Bugs—To Destroy.....	77
Rye Fly.....	204-235
Seventeen Year Locusts.....	26
Slugs on Pears.....	356
Smoking out Lice.....	106
Squash Vine Borer on Hubbard	
Squash—Wire Worms.....	229
Troublesome House.....	150
Twenty Bushels of Army Worms.....	293
Weevil in Grain.....	325-356
Wheat Midge—Disappearance of.....	171
Inventions—Agricultural Needed.....	336
Ireland—Cultivated Land in.....	293
Ironing Apparatus Wanted.....	213</

Manure—Meadow Benefited by..... 59
Mixing with Loam..... 57
Muck—Value of..... 234
Night Soil—How to Compost..... 46
Night Soil—Leached Ashes—Cl-
der Pomace..... 102
On Corn—Experiments..... 232
Pulverizing—Benefits of..... 46
Queries and Answers..... 74
Salt in..... 237
Salt Mud..... 325
Sheds Recommended..... 198
Something Better than Guano..... 235
Spontaneous Combustion..... 324
Street Scrapings for..... 10
Superphosphate—Raw Bone..... 259
Tan Bark—Muck with Offal—
Bone Dust or Guano for Oats..... 135
Tan Bark for—Plaster, Amount
of per Acre..... 166
Used on Long Island..... 235
Wool Waste..... 357
Manuring—High, Pays..... 136
With the Hoe..... 172
Map of Eastern Virginia..... 345
Of Kentucky..... 349
Of Missouri..... 348
Of Port Royal and Vicinity..... 364
Mapes—A Great Mistake..... 57
Maps—Note on..... 323
March—Suggestions—Fickle Men..... 65
Market Fair..... 134
Fairs in Illinois..... 266
Review, Weather Notes, etc.
28-59-91-123-155-187-218-251-
283-316-347..... 376
Marls..... 134
Mass. Agricultural Reports for 1860..... 165
Matches—Death from..... 69
Substitute for..... 87
Matting—Russia Bass..... 259
May—Suggestions—Poultry Raising..... 129
Meadows—Blanketing..... 293
Burning over..... 293
Meals for Emergencies..... 214
Meat—Boiling, Broiling, Roasting and
Frying..... 54
Cooking, Making Soup..... 311
Cooking "Scientifically"..... 119
Keeping under Ground..... 58
Melons—Persian or Cassabar..... 292
Rotting..... 134
Microscope Premium Discontinued..... 102
Milk—Depth of Pans..... 197
First Flow Poisonous..... 230
Increasing Flow of..... 324
Keeping in Hot Weather..... 279
Milking Machines..... 166-230
Miller's Bolt—Cleaning..... 228-268-300
Millet for Fodder..... 170
Texan..... 135
Three Specimens of..... 293
Valuable Variety from Wisconsin..... 298
Mills—Farm—Bennet & Brothers..... 268
Minnesota Crops..... 357
Mistake of Binders..... 57
Mole Trap—Simple..... 135
Moles—Destructive..... 369
Do they Eat Peas..... 173
Driving from the Corn Field..... 136
Poisoning..... 58
Money—Heavy Discount on..... 32-64
Moore's Rural New Yorker..... 68
More Described..... 229
Mothers—A Word to..... 311
Mowers and Reapers..... 172
Mowing Machine Attachment—Inven-
tion by a Lady..... 10
Muck for Bedding..... 326
Mulching—Benefits of..... 50
Mushrooms—How to Raise..... 274
Poisonous..... 47-103-198
Muskmelons—Cracking..... 229
Muskrats—Destroying..... 293

N
Nails—Preventing Rusting..... 58
To Make Weather-proof..... 230
Nasturtiums..... 134
Where to Plant..... 198
Neatness and Health—Playing in Dirt..... 246
Newspapers and Periodicals in the U.S..... 250
Bonner's Ledger..... 26
Miner's, Dead..... 102
"United States Mail"..... 197
November—Suggestions—Visiting Pa-
rents..... 321
Nursery Catalogues—Bridgeman's..... 166
Starting a..... 57

O
Oats—Irish..... 260
On a Wheat Head..... 58-165
Sample of..... 324
October—Suggestions—Planting Fruit
Trees..... 289
Ohio Crops in 1859-60..... 47
Oil Cloths—How to Choose and Pre-
serve..... 182
Okra or Gumbo Soup..... 343
Onion Culture—New Edition..... 68
Seed—Scalding..... 292
Onions—Crop in Danvers..... 69
Lost in Storing..... 57

ORCHARD AND NURSERY—CALENDAR
for Jan., 2-Feb., 34-March, 66
—April, 98-May, 131-June, 162
—July, 194-Aug., 226-Sept.,
258-Oct., 290-Nov., 322-Dec., 354
Eight Reasons for Planting..... 82
Houses—Failure of..... 292
Lands—Tilling..... 338
Large Pear..... 357

Orchard—Notes for the..... 113
Oregon Fruit—Large..... 51
Osage Orange Seed—Sowing..... 292

P
Paint—Cheap Cement..... 136-229
Painting Buildings..... 72-333
Paints—Mixing—Book Wanted..... 26
Paper—Can't do without it..... 14
From Corn Husks and Leaves..... 10
Too Poor to take it..... 14
Parsneps—Wild and Cultivated..... 228
Pasture Lands—Hints on Improving..... 206
Pastures—Evils of Late Feeding..... 330
Patent Office—New Agricultural Su-
perintendent..... 259
Office—Reports and Seeds..... 135
Peaches—Better..... 25
Pear—Doyenne d'Erie..... 146
Grafting on the Butternut..... 57
New Winter—Duchesse d'Orléans..... 145
Rostiezer..... 324
Pears—Bicknell..... 356
Keeping..... 356
More Wanted..... 325
Peas—English Speckled..... 198-326
From Michigan..... 260
Guinea Dwarf..... 293
How to Start Early..... 57
Japan..... 68
Notes on Early..... 245
Supporting—Convenient Way..... 135
Pen—New, Cheap..... 68
Use the..... 43
Perfume of Flowers—To Obtain and
Preserve..... 308
Pickles—Greening with Grape Leaves..... 279
Picture Frames—Rose Leaf..... 212
Pine Apple—Large..... 198
Pitchfork—Horse—Beardsley's..... 2* 41
Plants by Mail..... 292
Climbing..... 57
House, for Winter..... 275
How to Improve..... 295
Replacing Weak..... 180
Thin the..... 179
Plaster of Paris—Practical Suggestions..... 137
Plow—Fawkes' Steam..... 8
Fowler's Steam..... 323-366
How to Scour..... 172
Knighting the..... 326
Plowing by Steam..... 174
By Steam—Howard's Apparatus..... 265
Deep—Testimony of the Crib..... 47
Greensward..... 107
Plows—Draught of—Experiments—
The Cylindrical Plow..... 136
Wheels on..... 292
Poisonous Toys..... 58
Pomological Societies—Defence of..... 175
Pork—How to Cook..... 171
Potato—Curious Growth of..... 332
Disease..... 102-168-361
Potatoes—Cut for Seed..... 6
And Manure..... 26
Deep and Late Planting—Large
Yield..... 236
Early—Mercers and Buckeyes..... 135
Early Sovereign..... 260
Experience with..... 43
How to Cook..... 54
How to Raise Cheaply..... 139
Large..... 69-229-292
Mixing in the Hill..... 166
Planting in Autumn..... 339-356
Preservation of..... 361
Price for Seven Years in N. Y..... 204
Profitable Experiments with..... 11
Raised under Straw..... 58
Seed—French Treatment of..... 361
Sods under—Bugs..... 134
Sweet—Keeping..... 326
Sweet—Starting Plants..... 68-115
Poultry—A Crowning Match..... 331
A Lady's Experiment with..... 12
A Neighbor's..... 357
Book—Best..... 357
Cholera in Hens..... 166
Commence to Fatten..... 301
Cure for Gapes and Cholera..... 198
Feed..... 357
Gapes in Chickens..... 69-135-229
House—Good and Cheap..... 331
Lecture in Few Words..... 80
Meat for Hens..... 205
Novel Chicken Question..... 58
Raising Chickens in Hot Beds..... 134
Raising—Experience in—Black
Spanish—Cracked Corn Feed..... 142
Shanghai Creepers..... 80
To Prevent Hens Eating Eggs..... 239
To Prevent Hens Sitting..... 135
Turkeys—How to Raise..... 142
Premium—Barometer—Extra..... 188-220
Books—Extra..... 256
New—Dictionary..... 96-128
To Ourselves..... 325
Turnip Seed..... 188-220
Premiums for All..... 134
For 1861..... 27-60-90-122-154-186-218
For 1862..... 282-315-346
For Indoor Manufactures..... 310
No more Special..... 292
Seeds, etc.—Giving—Objections
Answered..... 101
Preserving Fruit—Best Method—Straw-
berries, Cherries, Blackberries,
etc..... 215
Prizes—\$240 Offered for Practical Ar-
ticles..... 231-293
Prospects of Farmers..... 230-261-294-327
Pruning—Talk about..... 82
P's—The Three—Value of Health..... 310
Publisher's Notices..... 32-64-96-128-160-
192-224-256-288-320-352

Pump Wanted..... 325
Pumpkins—King of..... 369
Purchasing for Subscribers..... 61-92

Q
Quince—Cultivation of..... 209
Seed—Angers..... 69
Quinces in March..... 166

R
Raisins—How Prepared..... 325
Rare Returned..... 26
Raspberry—Allen..... 103-135
And Blackberry Shoots..... 180
Antwerp..... 68
Cultivation..... 83-274
Raspberries—Everbearing..... 260
Notes on Varieties..... 273
Protecting..... 57
Rats Afraid of Powder..... 15
And Mice—Poisoning..... 57
And Mice—Wool for Bait..... 293
Coal Oil for—To Kill Muskrats..... 135
Drumming Out..... 325
How to Kill..... 324
Mice, Squirrels, Gophers, etc..... 229
Preventive..... 229
Shooting and Worrying..... 69
Stop them..... 44
Reapers and Threshers Combined..... 68
Reports—Agricultural—Securing..... 103
Rheumatism—Remedy..... 306
Rhubarb..... 134
Cahoon's..... 260
Cultivate..... 83
From Seed..... 355
New Seedling..... 198
Ribbons—To Clean..... 87
Rock and Stump Extractor—Lyon's..... 2* 108
Lifter—Bolles'..... 359
Rockland Co. Farmers and Premiums..... 259
Rocks—Composition for—Roman Ce-
ment—Leaky..... 166
Roots—Harvest the..... 339
How to Feed..... 361
Suggestions on Storing for Winter..... 334
Rose of Jericho..... 229
The Best Noisette..... 324
Roses—Climbing..... 57
Rye—Giant and White..... 134-261

S
Sad Iron—Flat Iron, etc..... 371
Salt—Why Animals Need it..... 16
School—Scientific at Yale College..... 103
Schools—Two Good..... 228
Seed—Apparatus for Sowing..... 236
Distribution Closed..... 189
Envelopes—Defective..... 102
Exchanging; Does it Pay?..... 203
List—Descriptive Notes on those
Distributed..... 3-4-5
Selecting and Preserving..... 360
Seedlings—Interesting Discovery..... 324
Seeds—Free; Large Distribution..... 261
Germinating of, Aiding..... 4
Germinating Old..... 68
Hints on Sowing Garden..... 149
Immense Distribution of..... 92
List of those Distributed in 1861
and 1862..... 5-60-90-123-154-355
Number in a Bushel..... 356
Old—Vegetating..... 68
Persons Offering Free..... 134
Results from One Package..... 103
Send Now—Two Lists—Not sent
by Express..... 102
Sowing Soaked..... 171
Vitality of..... 356
September—Suggestions—Farmers'Ad-
vantages..... 257
Sewing Machine to Agr'l Society..... 64
Shallots..... 134
Shaving—Easy..... 373
Sheep and Dogs in Massachusetts..... 57-166
Dressing—Quick Work..... 68
Feeding in Winter..... 166
Foot Rot—Treatment of..... 141
Hemlock for—Saved from

.. Best Pears.....356	U	Wheat—Premium, etc.....3*.188	Catchup—Cucumber.....247
.. Budding Quince.....356		.. Salt on—Separating from Chess.230	Cheese—Sour Milk.....119
.. Decay of Fruit.....82		.. Salting to Prevent the Fly.....69	.. To keep old.....247
.. Dwarf Apples—Best Sorts—Pod		.. Transplanting.....171	Chicken Pie—Good.....22
.. Auger's Letter.....145		.. Wild Goose.....57	Coffee—Sweet Potato.....119
.. Dwarf Apples; Pruning White	V	.. Winter—Sowing in Spring.....102	Corn—Boiled Ripe.....342
.. Pine; Shortening-in Peach.....197		.. Whitewash for In-doors.....118	.. Dodgers—Virginia.....342
.. Dwarf—How made by Chinese.....81		.. For Roofs.....359	.. Oysters.....373
.. Evergreens—Desirable Sorts.....178		.. Out-door.....103	Cucumbers—Pickling Ripe.....247
.. Evergreens—How to Transplant.....178		.. Whitewashing—Hint on.....356	Currants—Preserving.....247
.. Evergreens—Sowing Seeds.....175		.. Whooping Cough—Remedy for; Sec-	Custard—Boiled.....87
.. Feeding.....338		.. ond Attack.....278	Dumpling—Apple Pie.....151
.. Fruit, Trimming up.....245		.. Wine—Frauds in.....326	.. Baked.....119
.. Hint or Two for Lovers of.....337		.. Home-made from Native Grapes.293	.. Indian.....342
.. Hop.....229		.. Making.....270	Eggs—Cooking.....279
.. Inducing Fruit-bearing.....25		.. Tokay.....326	.. Steamed.....151
.. Locust for Timber.....68		.. Tomato.....259	Gruel—Maize for Invalids.....343
.. Locust—Planting Seed.....102		.. Wistaria—Chinese; How Propagated.135	Hash—Corned Beef.....183
.. Long-leaf Pine.....25		.. Witty Reply—Which was "Sold?".....6	Hominy—Genuine Indian.....373
.. Low Branching for Prairies.....230		.. Wives—The Two.....87	.. Waffles.....87
.. Mice-gnawed—To Save.....*113	W	.. Wood—Green and Matrimony.....69	Jelly—Currant.....247
.. Model.....4*.240		.. Work for the Opening Season.....106	Johnny Cake.....342
.. Paint Injurious.....356		.. Wringing Machines—A Confession and	Mexican Stew.....87
.. Pine Lumbering—Lesson from		.. Caution.....343	Muffins—Corn.....342
.. History.....174			Mush—Dry.....342
.. Plant Small.....305			Mutton Hams.....183
.. Planting—Hints on.....305			Omelet.....151
.. Planting—May Day Festival.....145			Oranges and Flavoring.....119
.. Planting near Stumps.....324			Pancake—Dutch.....183
.. Plum; Beach or Sand for Stocks.166			.. German.....373
.. Preventing Sprouts.....135			Parsneps—How to Cook.....372
.. Propagating Willows; Magnolia			Pickles—Tomato.....279
.. Hardy in Missouri; Retarding			Pies—Apple Pie Melon, etc.....119
.. Buds; Renovating Peach;			.. Cracker Mince.....22
.. Apple, etc., from Cuttings;			.. Cream.....22
.. Branching Low.....103			.. Cream—Erratum.....25
.. Protecting from Rabbits.....292			.. Delicate.....87
.. Protecting from Sheep.....68			.. Lemon—Good.....87-119
.. Quince Stocks—Distinguishing.....25			.. Washington.....87
.. Raising Plum and Cherry.....229			Pop-Overs—Nice.....247
.. Remedy for Barrenness.....58			Pork—How to Cook.....151
.. Shade—Hints on Choosing.....113			Potatoes—Cooking.....54
.. Straightening Young.....49			Pudding—Baked Corn.....373
.. Stuarta <i>Petagnia</i>2*.48			.. Brown Betty.....373
.. Suggestions about Cultivating			.. Cherry.....183
.. Dwarf Pears.....145			.. Cottage.....22
.. To Revive Dormant Buds.....305			.. Delicious.....22
.. Too Old to Plant.....146			.. Hasty.....342
.. Transplanting Budded.....259			.. Indian—Baked.....343
.. Transplanting Large.....358			.. Indian—Boiled.....343
.. Variegated Leaved Maple.....368			.. Toast.....119
.. Wounds in.....338			.. Wheat Flour.....22
Trellises—Cast Iron.....103			Samp.....342
.. Fencing—Overdoing in.....307			Short Cake—Strawberry.....247
.. Tipe—How to Clean.....119			Turkey—Boned.....22
.. Turnips—Early.....134			Whitpot—Indian; Mock.....342
.. Keeping Fresh.....324			Wine—Blackberry.....247
.. Large Yield.....12			.. Currant.....247
.. Waite's Eclipse.....356			.. Tomato.....259
			Yeast—Corn.....279

INDEX TO ILLUSTRATIONS IN VOLUME TWENTY.

A	F	J	R
Aloe—American.....181	Farm Scenes—Autumn.....336	July.....193	Rabbits—Pet.....280
American <i>Agriculturist</i> —War.....304	.. Darley's Spring.....112	June.....161	Rock and Stump Extractor.....(2)..108
April.....97	.. Darley's Summer.....208		.. Lifter—Bolles.....359
Aquarium—Salt Water for.....181	.. Darley's Winter.....16	L	S
Armadillo.....152	.. Laying Out.....139	Land—Plan of Tilling.....39	School—First Day at.....312
August.....225	February.....33	Little 'Scarecrow'.....216	Seed—Box for Sowing.....236
B	Fence—Wire.....9		September.....257
Bag Holder.....362	Flageolet—The new.....344	M	Sheep Rack—Portable.....9
Barley—Nepaul Variety.....261	Flower Baskets—Rustic.....(3)..20	Map of Eastern Virginia.....345	Shrub—Stuartia Pentagla.....(2)..48
Barrelling Apples, etc.....9	.. Passion.....180	.. of Kentucky and Tennessee.....349	Silkworm—Chinese.....81
Baskets—Ornamental Hanging.....212	Flowers and Fruit—Decorations.....(3)..276	.. of Missouri.....348	Socks for Soldiers.....371
Bee—Italian Queen.....109	.. New Chrysanthemums.....(3)..244	.. of Port Royal and Vicinity.....378	Soldiers—Young.....184
Bees—Stingless.....(9)..76	.. Preserving Cut.....276	March.....65	Stacks—Improved Bottoms for.....300
Birds—Snow Bird.....13	Fruit—Frame for Drying.....277	May.....129	
.. The Barn Owl.....44	.. Gatherers.....(4)..209-273 309-367	Mill—Sanford's Farm.....(2)..268	T
Boy and Crab.....88	G		Telegraph to Pacific.....358
.. and Dog.....55	Galvanic Ring for Slugs.....273	N	Topiary Work.....(5)..176
C	Garden on the Housetop.....(2)..116	November.....321	Transplanting—Good Method.....309
Cattle—Branding.....299	Plan of Flower.....148	O	Treasury Note.....813
Cheese Press—Simple.....301	Grape Vines—Training.....241	October.....289	Trees—Coffee in Bearing.....(2)..52
Christmas Tree.....374	Green-Houses—Bay Windows.....(2)..308	P	.. Model.....(4)..240
Clothes Dryer.....(3)..213	.. Double Window.....340	Pampas Grass.....12	.. Saving Girdled.....113
.. Horse—Folding.....277	.. Heating Apparatus.....(4)..340-370	Pear—Doyenne d'Ete.....146	U
.. Line Apparatus.....277	.. Independent.....(4)..370	.. In Bottle.....18	Umbrellas—Safe for.....341
Cold Graperies—Cold Frames etc.(6)..272	.. Lean-to.....340	Pitchfork—Beardsley's Horse.....(2)..41	Undersleeve—Crochet Work.....(3)..20
D	H	Plant Case.....308	V
Detoscope.....(2)..55	Happy as a King.....152	Plow—Fowler's Steam.....366	Vases for Ornamental Grounds.....(5)..84
December.....353	Hedges—Trimming.....(3)..302	.. Howard's Steam.....265	Ventilator—Lyman's.....309
Dibbs for Transplanting.....149	Horse-Power—Sanford's Improved.(2).237	Portraits of Humbled Sufferers.....332	
Dioscorea Batatas Homeward Bound.....204	.. Rarey's Method of Taming.....37	.. of Shavehead and Lady.....24	W
Draining—Form of Drains.....(6)..169	.. From Landseer's Painting.....144	Potato—Curious Growth.....332	Walks—Lawn—Form of.....(5)..148
.. Form of Tiles.....(10)..201	Hour-Glass.....120	Poultry—Stinghal Creepers.....80	War—Badges of Officers.....(14)..281
.. Laying out Drains.....(7)..264	House—Rustic Summer.....172	Preserving Fruit.....215	.. Implements—Cannon, etc.(9).217-18
.. Levelling Instrument.....329	Hyacinth Glass.....369	Puzzles.....23 55-122-153-249-261-814-346-375	.. Implements—Miscellaneous.(12).248
.. Ploving for Drains—Traps.....(5)..297	I		Wheat—Giant.....72-188
.. Position of Strata.....(6)..70-105-137	Inarching.....(2)..117		Hallet's Pedigree.....(2)..188
.. Shallow and Deep Soil.....(2)..70	Indians—"Digger"—Woman & Child(2).24		
.. Tile-making Apparatus.....(5)..233	Insects—Pigeon Tremex.....(10)..140		
Dream—Rip Van Winkle, Jr's.....73			

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Nineteen Years.

"Farewell to the 'teens" were the closing words sent to the printer last month. The opening of the twentieth year is, to us, an event of no little significance. May we then be excused for indulging in a little self-complacent talk?.... Glancing at our book shelves, there stand nineteen volumes, so many chronicles of the past. Upon the backs, in gilt indices, we read: Vol. I, 1842; Vol. II, 1843; Vol. III, 1844;... Vol. XIX, 1860—the first ten of octavo size, like boys in uniform, followed by nine portly quartos.

A thousand reminiscences are called up in glancing over these year records: the origin of the *Agriculturist*; its early struggles; its first subscriber; the labors and anxieties of its founder, still in active life, but with locks whitening with care and age; the large circle of thinking men who have in these long years contributed to its pages; the wider circle of those to whose homes it has been a visitor for a part or the whole of its existence, and the transformations in and around those homes, that have grown out of its hints and suggestions.... Again we think of the printers, who have year after year labored to straighten into shape the thousand upon thousand pages of hieroglyphic manuscript, and whose nimble fingers must have moved to and fro at least three hundred million times in arranging the speaking types; of the uncounted millions of printed sheets that have dropped from the press, and after folding, stitching, and wrapping, have been deposited in the "old Dutch Church Post Office," and thence been sent hither and thither over the broad continent.... Now we are carried back to the little basement office on Broadway, where the paper first saw the light of day; thence to the second story home at 189 Water-street, where it remained so many years; and finally we take a satisfactory survey of the present spacious and beautiful office where the *Agriculturist* has secured a lease against all intruders for a decade of years at least.

Passing over the associations connected with the paper itself, and its successive development,

we are tempted to take a rapid review of our personal history; and we would here pay a passing tribute to the little Genesee Farmer of the olden time, for it was perhaps the awakened thought instigated by early reading that paper, that led us to inquire whether Science could not aid in the culture of the soil, as well as in other pursuits. Before the days of the *Agriculturist*, while in the vigor of opening manhood, with a somewhat mature experience in the varied labors of farm life, we had decided to seek in an eastern college, not only what of discipline the mind could gain from a study of Greek and Latin roots, but what of assistance practical science could render to the cultivator in ascertaining and overcoming the deficiencies of the soil. We recall the years of anxious study, the interest with which we read the beautiful theories of Liebig and others, who seemed to have discovered, now in one direction, and then in another, the true relations of plants to the soil and the atmosphere, and the means of harmonizing those relations, and supplying at small labor and cost the connecting ties which should make them take kindly to each other. We well remember, when we subsequently entered the weird chambers of old Yale's chemical laboratory, and toiled on month after month, and even year after year, amid bottles of acids and alkalis, and a hundred other re-agents, surrounded with crucibles, and retorts, and filters, and balances, and in an atmosphere suggestive of the nether regions—now examining the very vitals of a grain or stem of wheat, of oats, of corn; then separating the silex, the lime, the potash, the soda, the magnesia, the iron, the phosphoric acid, and other known and unknown elements of various soils, gathered from New-England, sent in from the Middle States, and furnished by Hammond, of South Carolina, by Phillips, of Mississippi, and others; anon weighing a half dozen or more beautiful compounds, gathered by chemical manipulations from a mass of reeking manure from the barn-yard, or from the rotten carcasses of birds and fishes brought from the Islands of Peru and Ichaboe; followed by anxious inquiry how these various elements of plants, soils, and manures, stand related to each other. Nor can we forget the disappointment we have since felt, as we have gradually been forced to the conclusion, that, though Nature has allowed chemistry to invade her domain and gather a few hints, yes many of them, useful to the practical cultivator of the soil, yet she still maintains an almost Japanese tenacity in resisting the enterprising inquirers after the laws by which she rules her empire. Though somewhat disappointed in not learning as much from chemistry as we had fondly anticipated, our time spent in that direction is of inestimable value, in that it has, at least, taught us that there are many things that we do not know; that much of the so-called agricultural science is yet

unreliable; and that the teachings of some of the self-constituted doctors and professors of agriculture are but the visionary dreamings of impracticable theorists—if nothing worse.

.... Again we call to mind the timidity with which, after repeated solicitations from the founder of this journal, we entered its sauctum as associate editor, and ere long found its responsible duties resting mainly on our shoulders; and subsequently, almost without our seeking, the triple cares of editor, publisher, and proprietor, were altogether upon us.... Well, for years past, aided by a noble and faithful corps of associates, we have tried to discharge these duties, and have sought to further our own interests, by honestly striving to promote the interests of our readers. How well we have succeeded, we of course leave others to judge. A circle of readers and patrons larger, by far, than at any former period, is an indication, at least, that we have not mistaken our calling, and is a strong incentive to renewed exertions, as we now begin the labors of the twentieth volume. The bond between our readers and ourselves is pleasant, higher we trust than a mere commercial one—so much paper and ink for so much money. We are laborers together to promote each other's elevation and happiness.

Let us work while the day lasts. Of those whose names stand on the first books of this office, how few remain on this stage of action. The word "deceased" has been written against many a name during these nineteen years, and doubtless is written for many others by the recording Angel. We are all hastening onward through this life's pilgrimage. Our plowing and sowing, our harvesting, and consuming, and marketing the products of our fields, will speedily be over. The year we now enter upon will, to many of our number, be the last. Let us put our houses in order at the very commencement of the year; let us sow any good seed yet to be sown for the harvest of the next life, and root out any foul weeds that have been hitherto permitted to grow. If this be done, with that Omnipotent aid vouchsafed to all who will seek for it, it matters little whether prosperity, or storms, or drouths, visit our outward fields. If the soil of the heart be in order—the fallow ground all broken up and planted with good seed, and watered with the dews of grace—the new cycle we now enter upon will be what we heartily wish to all our readers—A HAPPY NEW YEAR.

The successful men in the business world are not those who merely labor hard with their hands, but those who think and plan much. Thought is developed by contact with other minds, either by speaking or reading. Farmers, who have less opportunity than others for conversation, should supply the deficiency, as far as possible, by reading the thoughts of others.

Calendar of Operations for Jan., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 33° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the North, and later for the South.]

☞ This department is much fuller in the working season, embracing all the operations of the farm, garden, etc.

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus; *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The season is auspicious to the commencement of improved practice on the farm. If upon a survey of the past year's operations it is evident that there was too much attempted for the amount of capital invested, now is the time to concentrate effort upon a smaller area. Sell land enough to make your place manageable. Fifty acres well tilled, will bring more profit than double that number half worked. See note of Mr. Jones' experience in this paper. If scarcity of fodder is apprehended, better to reduce the number of animals than to limit their feed below their wants. True economy is rightly using what we possess; let it be the rule in all undertakings. Few special directions are needed beyond what were given last month.

Barns and Stables—Arrange the old ones, and plan the new ones, if to be built, for convenience in threshing, feeding, manure making, etc., and for the comfort of stock. Keep the barn tidy. Fowls should not be allowed to roost around where they choose. Tools, harness, etc., should be kept in appropriate rooms. Allow no manure to accumulate against the sides or sills of the building.

Breeding Animals—Give them generous fare, but not a surfeit. Keep well sheltered. Their progeny will repay all such care.

Cattle—Keep them in warm stables, with plenty of bedding. Feed regularly, and with variety of food. Roots, oil meal with hay, and an occasional allowance of unthreshed oats ent fine, if you have any or all these, will pay. Use the card or curry-comb frequently. Break steers. Handle heifers to prepare them for milking.

Cellar—Cover bins of roots or apples in danger from frost. Remove decaying vegetables. Keep out rats; cats, which are nearly as great a nuisance as rats, or poison, must be resorted to. Traps won't do—at least with us.

Corn—Shell any remaining. Select the best ears for seed, if not done at the proper season.

Debts—Collect those due as far as may be, and pay all practicable. Commence the year square with the world if possible.

Fencing—Prepare timber when the weather allows. Make gates, bar-posts, etc., in the workshop in stormy weather.

Grain—Examine occasionally to see from dampness and vermin. That for Spring seed should be specially cared for.

Hemp and Flax—Break and prepare for market.

Hogs—Slaughter, *ff*, any remaining of the fattening stock; they can gain little in very cold weather. Allow plenty of bedding, (See page 14,) and keep the pens clean. Give cooked food moderately warm. Turn in the male, *ff*, if not already done.

Horses—Keep in warm stables, and blanket them in very cold weather. (See page 14.) Cover them when standing out after a drive. Give an occasional allowance of carrots, if you have them, with hay and grain. Are they well shod and sharpened? On cold days warm their bits before harnessing; it is cruel to skin their mouths with cold iron. Do not give them ice-water to drink. Keep well cleaned, especially their feet and legs. Handle and break colts.

Ice-Houses—Fill as soon as practicable. The first really good ice may be the last.

Implements—Put all in thorough repair. Keep from unnecessary exposure to storms. Oil running gear of threshers, fanning mills, etc.

Lumber—Improve the snow in drawing logs to mill. Cut them in the forest, if it was not done in the Fall, which would have been preferable.

Manure—Prosperous farming commences in securing an abundant supply. Arrange troughs and reservoirs to collect liquids from the stables, and absorb them with muck or straw. Use all sink slops, poultry droppings, chip dirt, dead animals, and other decaying matter, in the compost heap. These combined with stable manure and muck, will in many cases double the amount heretofore made.

Marketing—Improve good sleighing for marketing grain, if prices are satisfactory. Make cash sales if practicable.

Poultry—Give cooked food, and raw meat chopped fine, with cabbages or other vegetables. Keep them in warm quarters, with plenty of light. Supply water, gravel, lime, and ashes, or chip dust.

Roads—Remove obstructing drifts, and keep water courses and bridges in order.

Salt animals at least weekly. (See page 16.)

Sheep—Shelter from storms. Feed from racks separate from other stock. Give sliced roots, and occasionally a treat of grain, with hay. Turn the buck with the ewes, *ff*.

Wood—Prepare a year's stock in advance. A circular saw attached to the horse-power, will save much labor.

Orchard and Nursery.

Leisure evenings may be improved in studying works on tree and fruit culture, planning new grounds, and selecting an assortment for Spring planting. A large variety is not desirable for the orchard. Choose enough of known approved kinds to afford a supply throughout the season. Send orders early to reliable nurserymen, rather than wait for the visit of tree peddlers.

Secure a full supply of cions for grafting trees bearing inferior fruit; they may be cut at any time when free from frost, and sent by mail if wrapped in oiled silk to retain their moisture. Keep until Spring by burying in sand in the cellar.

Keep all standing water from the grounds by surface drains now, and by thorough underdraining as soon as the season will allow.

Where trees are prostrated by winds, remove them at once to the wood pile. If branches are split down, pare the wound smooth, and coat with grafting wax. Leave pruning until next Summer.

Destroy the eggs of caterpillars and other insects, which can now be readily seen upon the leafless branches. Repel rabbits and mice with tarred paper tied about the trunks of the trees.

Have a full supply of implements, stakes, labels, etc., ready for Spring.

Kitchen and Fruit Garden.

At the North, little can be done now in this department, except in preparation for future work. In intervals of open weather, draining and trenching can be done in some sections, and all may lay out plans of the grounds, and secure a good selection of seeds. Draw on paper a plan of the garden, and designate the exact locality of each kind of vegetable and fruit.

Cold Frames—Plants in them are benefited by ventilation when the weather permits. Give extra covering in very severe cold. Snow falling upon them need not be removed; it serves as a protection.

Cuttings of Gooseberries, Currants, etc., can be made at any time when not frozen. Preserve them in dry sand.

Frames and Sashes for Hot-beds should be in readiness for early use. Except at the South, February is early enough to make the beds.

Mushrooms—Prepare boxes and keep from frost, and moderately moist, in the green-house or cellar.

Rhubarb—An early growth can be forced by covering the crown with an open barrel, half filled with coarse stable manure.

Seeds—Before purchasing a quantity, sow a few upon cotton floating in water, to try their vitality; if good, they will soon germinate in a warm room.

Stakes, Poles, Pea-brush, etc.—Collect and prepare a good supply of these while securing fuel.

Flower Garden and Lawn.

Trees and plants in the open ground are now at rest, and require very little care. In Northern latitudes, evergreens should be cleared from the accumulations of snow upon their branches. Low branching deciduous trees are sometimes injured in this way, especially where the settling drifts pull down the lower limbs. A little shoveling will clear them, and prevent damage. Junipers and other upright growing evergreens are protected by passing twine spirally around their heads, which keeps the straggling branches from being split down by snow, and gives a more compact appearance.

Plans may now be perfected for the operations of the Spring. Labels and stakes should be prepared in-doors, that they may be in readiness for the busy season of planting.

The frames and flower pits will require some attention. During mild clear days, when the mercury is above the freezing point, open them for ventilation, and remove any decaying leaves, watering the plants lightly if the soil be quite dry. If the pits are covered with snow and the weather is cold, leave the snow for an additional protection, and keep everything closed.

In mild, southern latitudes, where the ground is open, trees and shrubs may be planted, grounds laid out, dug, trenched, and manured, and everything attended to which will facilitate the regular planting in February and March. As warmer weather invites more into the pleasure garden and among shrubbery, the grounds should be kept neat and clean, paths in order, lawns raked, and everything done to render them attractive.

Green-Houses.

As these only contain those plants which require protection from actual frost, the rooms need but little fire heat excepting in very cold weather. Plants to be grown or flowered during the Winter, should be put in the hot or forcing-house, where more heat is kept up. In the green-house proper, a temperature of 35° to 50° is all that is required, but when the outside atmosphere is very cold, fire will be required to keep out frost. During mild clear days, the ventilators may be opened to air the rooms thoroughly.

Grape Vines should be pruned and arranged for growing, especially if the roots are inside the house. The buds will soon give indications of swelling.

Plants in pots and boxes should be frequently examined; water only when the soil is getting quite dry, but remove all decayed leaves, so that a pure, sweet atmosphere be always maintained. Bulbs kept here in pots, to be forced as needed, will require very little water. They will grow slowly, and can be moved to warmer apartments when wanted.

Insects should be looked after, and the trunks of oranges, lemons, oleanders, etc., washed with potash water, if infected with scale. Washing the foliage of broad-leaved plants with tepid water will destroy insects, and promote a healthy growth.

Pots standing near the windows will need turning occasionally, or the plants will incline towards the light, and acquire a leaning position.

Hot-House and Conservatory.

The greatest care will now be required to guard against extremes of temperature. The weather is changeable out of doors, and only a watchful eye to the furnace and thermometer will prevent changes in-doors. There is an opposite danger to be avoided. The furnace is sometimes filled with coal, upon retiring for the night, and the room is highly heated when a lower temperature should be maintained. In a state of nature, plants receive the greatest amount of heat by sunlight, and less at night. As far as may be, this rule should be observed in the houses. A desirable temperature is 70° to 80° for

most collections—90° for those tropical plants which need strong forcing. The heat should be as even as possible, only falling a few degrees at night.

Air is necessary to vegetable life, and as the fire and growing plants are constantly vitiating it, fresh supplies are needed. Admit through the upper ventilators to avoid draft. The houses should be kept closed in very severe weather, during fogs, storms, and high winds. Previous to snow storms, or during the prevalence of extreme cold weather, it is better to keep the outer shutters on, as it will scarcely be possible to keep the cold out with a single covering of glass. Remove the snow as soon as the storm is over, as its melting causes a drip from the glass upon the plants.

Azalias—Syringe and water more freely as they increase in growth and begin to swell for bloom. Fumigate to destroy insects.

Bulbs—Bring from the green-house as wanted for succession of bloom. Change the water of those in glasses at least weekly.

Camellias are now coming into flower. Water and syringe freely, avoiding wetting the bloom. Cut back to a compact bush form. Cuttings may still be made and inserted into pots at once.

Carnations—Stake those in bloom, and water often. Shift those which are pot-bound. Put in cuttings for a Summer stock to bloom in the open grounds.

Cinerarias will need especial watching as they are favorites of the green fly. Tobacco fumes are the best antidote. Repotting will be necessary in many instances.

Cuttings and Layers of many plants may now be made. Insert thickly in pots of prepared soil until well rooted, when they may be put in separate pots. Provide, in this way, for a good stock of bedding plants for Spring use out of doors.

Fruit Trees in Pots—Much attention is now given to "Orchard Houses," or the culture of fruit trees in pots, under glass. It is found that grape vines, peach trees, nectarines, apricots, figs, and even apples and pears, may be grown and fruited in 10 and 12 inch pots, forming novel objects of much interest, if not a profitable feature. In England, where some of these fruits can scarcely be ripened out of doors at all, large houses are built expressly for them, but in our climate it is only advisable for the amateur or man of means. Such trees should now be pruned, if they have not already received that care, and arranged for immediate forcing. Of course the heads should be cut back to correspond with the limited space for roots.

Grapes, in the early houses are beginning to color, or even ripening off. They require a dryer atmosphere with very little water at the root. Air freely. Later houses require more care. Some need pruning, thinning, syringing, and an application of sulphur to destroy the mildew, according to the amount of forcing they have received, while others are but just arranged upon the rafters, with buds barely beginning to swell. Keep outside borders well covered with manure.

Insects—Prevention is better than cure. A moist atmosphere, frequent washing and syringing of the foliage, hand picking, etc., are the best preventives. For a cure, use tobacco fumes for thrips and green-fly, soap and water for scale, and a sponge or syringe and clear water for red spider.

Bedding Plants—Now is the time to get up a good stock of verbenas, petunias, pelargoniums, fuchsias, salvias, heliotropes, dicentras, and other good massing plants for the open borders in Spring. They can be increased rapidly from cuttings and layers, and will be of good size at planting time.

Potting—Many plants need an early shift to pots of a larger size, and cuttings inserted last month are now ready to pot off. Have a heap of potting soil at all times in readiness where it will not freeze.

Seeds of many out-door annuals may now be sown for early planting in the borders as soon as made up in the Spring.

Shutters—Have in readiness and use during snow storms and when very cold and windy. It is not

best to leave them off at night unless the weather is quite mild. Put them on early at night, and remove in the morning when the sun is well up.

Water—Examine the pots and give water when the soil becomes partially dry. Syringe frequently, but avoid excess. More water will always be needed as rapidity of growth increases. The water should always be soft, and taken from a tank or cistern in the house itself—to be of same warmth.

Apiary in January.

BY M. QUINBY.

Stocks of bees that contain a limited supply of honey, and are standing in the open air, will be more liable to suffer, than such as have stores in proper quantity. The bees must have access to their stores as often as every few days. If they have but little honey, it is quite sure to be further from where they have clustered, than when they are well supplied. Frosty combs will prevent their reaching it. If moderate weather does not occur with sufficient frequency—at intervals of two or three weeks—to melt the frost, they should be warmed artificially. Bring the hive to a warm room for a few hours; the bees will then go to their sealed honey, and remove into the cluster a supply for several days. Unless the room is perfectly dark, they should be brought in at evening. It is seldom that we have severe weather sufficiently protracted, to make this trouble necessary for strong, heavy stocks, but if such weather should occur, and prevent the warmth of a large colony from thawing out the frost of the hive during the month, it would be necessary to warm them also. In handling the hives, avoid any heavy jarring, and any unnecessary disturbance.

Keep the air passages free from dead bees, ice, etc. If the weather should be very mild, and the sun shine warm, they may be allowed to fly—unless there is a light snow on the ground, when they should be kept in by shading the hive with a board. If all the frost at any time leaves the hive, so that it may be raised without disturbing the bees, the filth, dead bees, etc., should then be swept out.... See if the mice have not found, or made a passage into the hive, and are appropriating to themselves forbidden sweets. They will, sometimes, if unmolested, build a nest inside, and take up their abode there for the winter. They must be turned out, and kept out, covering all passages with wire cloth, except a space just large enough for a bee to pass.

Our Exhibition Tables.

The following articles, not before noticed, have been received and placed on exhibition:

FLOWERS AND PLANTS.—Carnations and Chrysanthemums—A fine collection of many varieties from the N. Y. Orphan Asylum, C. S. Pell, Supt.... Jerusalem Cross—or Mole Tree (*Euphorbia lathyris*), a very pretty evergreen plant, said to be a protection from moles when planted in the garden, J. W. Douglas, N. Y.... Boll of ripened Cotton, J. W. Harris.

FRUIT.—Newtown Pippin Apples, W. S. Carpenter, N. Y.; Easter Beurre, Vicar of Winkfield, and Doyenne gris d'Hiver, Pears, Thos. W. Field, Kings Co., N. Y.... Isabella grapes, preserved in cotton, Haight & Merritt, Dutchess Co., N. Y.... Cranberries, bell variety, plants in bearing, F. Trowbridge, New-Haven Co., Conn.

VEGETABLES.—Carrots, Parsneps, Onions, etc., fine specimens, J. E. Macomber, Newport Co., R. I.... Carrots, splendid growth, W. J. Spence, Suffolk Co., N. Y.... Beets and Turnips, good, R. Graft, Queens Co., and W. J. Spence, Suffolk Co., N. Y.... Strap-leaved Turnip, weight 11½ lbs! raised from seed distributed from this office, Samuel Bowden, Fairfield Co., Conn.... Perfected Tomato, good specimens, S. Daniel, Westchester Co., N. Y.

BIRDS.—A magnificent Bald Eagle, captured in St. Lawrence Co., N. Y., and a full grown Horned Owl, taken in Catskill, N. Y., purchased by the publisher, for permanent exhibition, have attracted much attention. They are fine specimens. We hope to keep them alive for a long time.

Descriptive Notes upon our Seeds Distribution for 1861.

General Remarks.—The list of seeds and rules of distribution are given on page 5. To avoid confusion, whenever we add a new kind of seed, we give it a new number, instead of one which has been used for some previous kind dropped out of the list. Thus: in the present year's list the seeds numbered from 127 to 183 have not been in any previous general list. The missing numbers from 1 to 126 belong to seeds not in our present list. Separate stereotype plates are prepared for printing the seed bags of each variety distributed, and the same number is always used for the same kind of seed. In the list the numbers are arranged irregularly, for the purpose of classifying the various kinds of seeds together appropriately.

While the present year's list embraces 57 new varieties, we also retain 20 varieties before offered, for the benefit of those who have not yet been able to obtain them. Some of them are quite common in the Eastern Territories, but will be found particularly desirable in the far West, and especially on the Pacific Coast, at points remote from access to any good reliable seeds. As remarked last month, owing to the bad season in Europe as well as here, seeds are scarce and high this year—some of them extraordinarily so, and it is with the greatest difficulty and at large expense that we are able to get a supply. We hope to have enough to meet all demands from subscribers, and that our efforts in this line will prove satisfactory. The distribution can hardly begin before Feb. 1st, this year.

Our packages are necessarily small; in some cases they are put up with reference to the little weight that can go under postage stamps, and in others, because of the great cost of choice seeds. Very many of our flower seeds, for example, cost us four, five, and six, and from that to thirty five dollars the pound, even when bought at the lowest wholesale prices in Europe, and imported by us duty free. For example, we paid \$100 for only three pounds of Aster seed! Most of these seeds are annuals, and the product of the first year will furnish an abundant yield of seed for the future. Generally, the small packages of flower seeds will supply all the plants required in an ordinary flower bed or garden, if sown and cultivated with moderate care.

The following notes are designed not only to describe the seeds, but also to, in part, indicate the mode of culture. This list should be preserved. Other fuller articles on various plants will appear from time to time, and also hints as to the time of planting, etc., in the monthly Calendar of Operations.

Field Seeds.

No. 2. IMPROVED KING PHILIP CORN.—A dark brown, heavy corn, 8 rowed, with a small cob. It matures in 90 to 100 days and is a good variety for late planting, or replanting, or for a general crop. May be planted 3 to 3½ feet apart. Especially adapted to northern culture, and short seasons.

No. 3. SPOWELL'S SWEET CORN.—This is a large and rather late variety, sometimes called "Evergreen" from the long time it continues in a soft state. We consider it the best late sort, and when planted at different periods yields boiling ears until frost. We plant it largely every year. Much of that sold in this country is hybridized and impure, and gives no good idea of the pure.

No. 94. CRYSTAL FLINT, or HOMINY CORN.—A tall, slow, growing variety, with large ears, sometimes 3 or 4 on a stalk; kernel a beautiful clear, white flint, yielding fine white meal, and excellent "hominy." We have been pleased with two years' trial of it on a moderate scale.

No. 141. DARLING'S EXTRA EARLY CORN.—Formerly in our list, but dropped last year. It did so well with us last season that we gladly restore it. It is the best very early sweet corn we have found, rather dwarfish, and small ear, but sweet, and soon ready for the table. Plant as soon as ground is ready, and afterwards for a succession, in drills 2½ to 3 feet apart, or in hills. We have planted it in drills 4 feet apart, with late potatoes between and obtained a good crop of both.

No. 142. YELLOW STONE TURNIP.—A heavy, nearly round, yellow sort, of the flat or Dutch species, though of beautiful cone form. It grows quickly and may be planted late.

No. 143. WAIT'S ECLIPSE TURNIP.—An improvement

upon the ordinary swede, which it resembles in size and shape. They are better grown in cool weather, hence do best when sown late, say first to middle of July, for Autumn maturing.

No. 98. LONG RED MANGEL WURZEL.—A good beet for stock, but unfit for cooking. They grow of large size and are a profitable crop for Winter feeding. Require more room than the ordinary blood beet, and cultivated the same.

No. 101. IMPROVED LONG ORANGE CARROT.—A fine, long, yellow carrot suitable for the table or for stock. It is an improvement on the common long Orange variety.

No. 140. IMPORTED GIANT WHEAT.—An Irish variety, of which great stories are told in the English papers. We deem it worth a trial here, and have ordered a few bushels, at a large price—the first that will come to this country, we believe. It is a Winter variety, and, of course, can not be sown until Autumn. An engraving and description of it will appear by and by.

Vegetable and Garden Seeds.

No. 8. DANIEL O'ROURKE PEA.—Partly dwarf (2 feet high); berry of moderate size and medium quality; but a very desirable pea on account of its early maturity; is ready for the table in 40 to 45 days from planting.

No. 9. CHAMPION OF ENGLAND PEA.—One of the best proved sorts; and we adopt it for the general garden crop, sowing it at intervals for a succession. Sown at the same time as No. 8, the latter is gone before this comes on. Sow early and at frequent intervals for a succession during the season.

No. 58. NAPOLEON PEA.—A very good new pea, earlier than No. 9; of medium height: worthy of general adoption, or at least of further trial.

No. 130. GREAT EASTERN PEA.—A new pea, very large berry, blue, wrinkled, of good quality; stalk tall, requiring high bushing.

No. 12. GREEN KOHL RABBI.—A sort of turnip cabbage, or turnip growing above ground, which is cooked like a turnip, and to our taste better than either turnips or cabbages if used before maturity. It grows nearly round with about a dozen long stem leaves resembling cabbage leaves stuck into its surface at various points, which makes it rather ornamental in a garden. When mature, it becomes hard like a cabbage stalk, and is then only fit for feeding to stock, for which purpose it is sometimes extensively grown. Cultivate in all respects like cabbage.

No. 13. ENFIELD MARKET CABBAGE.—A very fine quick growing, round or nearly sugar loaf variety, which has given good satisfaction to those who have received it during the two years we have been distributing seed. For a nice, early, sweet cabbage, we like it better than any other variety we have tried. It is of medium size.

No. 145. FLAT DUTCH CABBAGE.—Of the drumhead species, large and suited for Winter use. Our seed of this and No. 146, are improved kinds procured specially for our distribution, and will, we think, give excellent satisfaction.

No. 146. EARLY BATTERSEA CABBAGE.—One of the earliest sorts of the sugar-loaf variety.

No. 147. NEAPOLITAN CABBAGE LETTUCE.—A large growing solid head lettuce. This is a new variety highly commended in England, and we have consequently ordered some of the seed for general culture here.

No. 148. LONG DARK BLOOD BEET.—The best late or Winter beet. This and No. 149, are from recently improved sorts.

No. 149. EXTRA EARLY BASSANO BEET.—This is thought to be the best early beet grown; turnip shape; may be sown as early in Spring as the ground will admit.

No. 74. SOLID WHITE CELERY.—The variety which succeeds best, and is raised for market in this vicinity. For early use sow in hot-bed, but as ordinarily grown for Winter use, May sowing will be sufficiently early.

No. 150. EARLY PARIS CAULIFLOWER.—A fine variety of this cabbage family, with a large solid flower. Sow in hot-bed for early, and in open ground for late plants. This variety has been little grown here, but is so highly commended abroad that we have sent for a lot of the seed, with the expectation that it will prove an excellent acquisition.

No. 151. YELLOW DANVERS ONION.—A large, flat, smooth onion of good quality, much prized in Massachusetts, for market. Sow in early Spring.

No. 95. HUBBARD SQUASH.—Illustrated on page 73, Vol. 18. A first rate Fall, Winter and Spring squash—of medium or rather small size, hard shell, yellow, dry and sweet flesh. An excellent keeping variety. In shape they resemble the Boston Marrow, but the thick shell is of a dark green color. After two years' trial, with at least 30 other varieties, we have found none of better flesh than this, though some others are more productive.

No. 152. CHEESE PUMPKIN.—A large, flat, light yellow or cream colored pumpkin which is probably not excelled

by any of the new candidates, for ordinary culture. It continues to be our favorite. Succeeds best in an open space, but may be grown among corn or potatoes.

No. 153. LARGE RED TOMATO.—A smooth, large, firm sort, sometimes called the "Perfected." They ripen for a long time in succession and keep well. For earliest, sow in a hot-bed; and for later plants sow in the open ground, as soon as it can be worked in Spring.

No. 154. ICE CREAM WATER MELON.—A sweet, well flavored variety which has given good satisfaction where tried. Plant in open ground, same as other varieties.

No. 76. SKILLMAN'S NETTED MUSKMELON.—A round, rough skin, solid variety, green when ripe, and very delicious. Considered the best market sort.

No. 103. SAGE.—A perennial herb so common as to need no description. Seed is offered for those at a distance from seed stores, especially in new settlements. Sow in early Spring in drills, and thin out as needed.

No. 155. LONG CAYENNE PEPPER.—Offered to those fond of this seasoning, for same reason as No. 103. Sow in open ground, in early Spring. The seed pods are used in stews, etc.

No. 156. SUMMER SAVORY.—An aromatic herb usually used in cookery, offered for same reason as No. 103. Sow early in Spring, and cut and dry when in bloom.

No. 157. LONG PRICKLY CUCUMBER.—One of the best varieties for early and constant bearing. Plant in April or May according to latitude, and protect from ougs.

No. 17. RED STRAP-LEAF TURNIP.—A very quick growing, large, flat turnip of the Dutch species, with a reddish or purple top—not leaves—valuable for early table use and for stock when sown late, often on land which has yielded a previous crop. Can be raised with very little trouble. Sow at any time from April to August.

No. 7. LONG WHITE FRENCH TURNIP.—Of the rutabaga species, firm and solid, but white instead of yellow, and very sweet. It attains a good size and keeps remarkably well. Sow in April or May, for early table use, but mainly in June and July for Winter use on the table, and for feeding.

No. 107. GIANT ASPARAGUS.—By improved and long continued culture this has attained large size, and superior flavor. Sow in early Spring, thickly in drills, and transplant at one or two years old.

Flower, Fruit and Ornamental Seeds.

No. 89. COTTON PLANT.—(*Gossypium herbaceum, arborescens, etc.*)—The Upland and Sea Island, are both sent in the same package (the Sea Island clean, and the Upland with down). Offered simply as an ornamental plant for the flower border, in the Middle and Northern States. The bloom is quite pretty and worth growing to look at, but the seed will not ripen or the down mature in this latitude. Sow at corn planting time, on warm soil, and thin to one foot apart, in rows two feet distant.

No. 111. CASTOR OIL PLANT.—(*Ricinus communis*).—Generally called a bean, but belonging to another family. It is a stately plant of 4 to 8 feet in height—according to soil and location—with handsome foliage rather than flower. The leaves are very large and beautiful. Plant in Early Spring and leave 2½ to 3 feet apart. Annual.

Nos. 160, 161, 162, and 163. RASPBERRY, CURRANT, GOOSEBERRY and STRAWBERRY SEED.—We send out as good seed as can be obtained, but can not promise that all will grow. Such seeds vegetate best when planted or put in boxes of earth as soon as cleaned from the fruit. Our seed being necessarily dry will only vegetate in part. We recommend getting roots where they can be obtained, and only offer seed for those residing a long way from nurseries, and for experiment. Of course there is no telling what varieties will be produced, but some good sorts are likely to come from the seed we send, which is from the best sorts. Sow in early Spring, covering lightly with muck, or leaf mold, or very fine soil.

No. 23. MIGNONETTE.—(*Reseda odorata*).—Not conspicuous in flower, but quite fragrant; hence desirable for bouquets. An annual of most easy culture, and continues in bloom during the season. Sow as soon as the ground can be worked in Spring, and at any time after until the middle of June. A semi-trailing plant.

No. 25. MIXED NASTURTIUMS.—(*Tropaeolum majus, etc.*)—Some will grow in a bush form, others run upon the ground several feet. Pretty in flower, and the green seed capsules are much prized for pickles, thus combining beauty and utility. Sow in early Spring, and at any time through May. Thin to one foot apart in rows two feet distant. Annuals.

No. 27. EXTRA COCKSCOMB.—(*Celosia cristata*).—Seed of this annual given out by us has given very good satisfaction generally, and very fine combs or corymbs have been sent to our office raised from previous distributions.

Sow at any time after frost is out, and thin to 18 inches apart. Grow from 18 inches to 3 feet high. An annual.

No. 29. DOUBLE BALSAMS.—(*Impatiens balsamina*).—Very pretty annuals of 1½ to 2 feet high, the double sorts producing few seeds, hence difficult to obtain, besides having a tendency to return to a single state. Sometimes, owing to soil or climate, a large lot of seed from double flowers, will produce nearly all single flowers. Most of those raised last season were quite pretty, however. Sow at any time after the ground is open, until the middle of June. Thin to one foot apart.

No. 30. TASSEL FLOWER.—(*Cacalia coccinea*).—An annual of 1 to 2 feet high, sometimes called "Venus Paint Brush." From its profuseness of flowering during the entire season and its intrinsic beauty, we value it highly. It is really a perfect tassel with a scarlet fringe. Sow in May and thin to 8 to 10 inches apart.

No. 31. CHINESE PINK.—(*Dianthus Chinensis*).—A very pretty little annual of this fine class of plants, most of which are perennials. It is not fragrant like the Sweet William, nor does it grow in clusters. Color varies from crimson with pink edgings, to white with a red center. They flower for many weeks in succession, and are desirable in every flower plot. Sow in early Spring. The roots frequently survive the Winter and bloom a second season, thus assuming a biennial habit.

No. 32. PORTULACCA, mixed varieties.—(*Portulacca splendens, lutea, etc.*)—Showy plants, brilliant red, scarlet, yellow, crimson, white, etc., of low, semi-trailing habit. They are very hardy annuals and may be sown at any time after the frost is out in Spring. Drooped seeds, ripened the previous season, often come up the next year. Continues in flower a long time.

No. 33. CYPRESS VINE.—(*Quamoclit vulgaris*).—One of the finest annual climbers, with delicate feathery foliage and bright trumpet shaped flowers. It will climb a string or other support 12 to 18 feet in a season, and is a fine plant to train in a cone shape around a central stake. Soak the seed for 12 hours before sowing and only put it in when the ground is warm. Sow May 1st to June 1st, according to the locality.

No. 42. FOXGLOVE.—(*Digitalis alba, purpurea, etc.*)—A perennial, blooming the second year from seed. The glove or nearly bell-shaped flowers are very pretty, often beautifully mottled with purple and brown spots. They grow 2 to 4 feet high and flower upon a spike beginning at the bottom, and continue in bloom for several weeks. The *digitalis* of the druggist is obtained from the leaves and seeds of this plant. Sow in early Spring. The roots often die out after flowering a few years.

No. 49. CANDYTUFT.—(*Iberis umbellata, amara, etc.*)—Suitable for massing or for borders. An annual with clusters or umbels of small flowers of various colors, from pure white to purple. Grows 6 to 12 inches high and blooms most of the season. Sow at any time in Spring.

No. 51. DRUMMOND'S PHLOX.—(*Phlox Drummondii*).—A pretty annual, which may be sown as soon as the weather is settled warm in the Spring. Blooms for 2 or 3 months, and grows 12 to 18 inches high. A fine massing plant, with flowers of various colors.

No. 86. MIXED EUPHORBIAS.—(*Euphorbia variegata, etc.*)—This plant is more prized for its foliage than for its flowers. The leaves are singularly beautiful, being variegated, with a deep white border around the edges contrasting finely with the green center. It grows 2 to 4 feet high. No new plant in our opinion is more admired. Sow early in Spring, and thin out to fully one foot apart, except when grown in masses.

No. 87. GOLDEN COREOPSIS.—(*Coreopsis tinctoria, atropurpurea, etc.*)—A showy flower of bright yellow color, with a dark center. Two to three feet high, branching, with delicate foliage. Sow at any time after frost is out until June 15th. It is an annual, often coming up from seed ripened the previous season. Leave in 2 feet rows and 6 to 10 inches apart in the row.

No. 122. CANTERBURY BELL.—(*Campanula medium*).—Showy, pretty biennials, flowering the second year from seed, and sometimes living 3 or 4 years. They bloom along a spike 2 to 3 feet high; flowers of perfect bell shape, large, and in some varieties double; white, lilac, blue and intermediate shades. Sow at any time in May or June, and transplant in the Fall to 1 foot apart in rows 2 feet distant.

No. 123. GILIA NIVALIS.—An annual of 1 foot in height, delicate growth; white or variegated, flowers growing in panicles, and finely divided leaves. Good for massing. Sow in early Spring.

No. 124. WHITLAVIA.—(*Grandiflora*).—This new California annual pleases us much, blooming 5 to 6 weeks from sowing, and continuing in flower until October. Its blue, bell shaped flowers resemble the *campanulas*. Sow early in May, and thin to 6 inches apart, as it only attains a height of 1 foot.

No. 126. CENTRANTHUS (*Macrosiphon*).—An annual of

rather delicate appearance, but hardy and desirable. Flowers fasciated (in bundles or clusters), tubular, borne on stalks 10 to 12 inches high. Continues in bloom until frost. Sow in early Spring and thin to 6 inches.

No. 164. SWEET SCENTER AGERATUM.—(*Ageratum Mexicanum*).—A pale blue or white annual, desirable for bedding or massing. The plants may be taken up in Autumn and put in the conservatory or hot-house where they will continue in bloom during Winter. Sow in early Spring.

No. 165. COBREA SCANDENS.—Coming from Mexico, this rampant perennial climber is not sufficiently hardy to endure our climate without the protection of a green-house, where it is more appropriately at home, and will run 200 feet in a single season. Flowers bell-shaped; large and of a purple color. Sow in the house, or in a hot-bed, in March or April, and plant out when the weather is settled. It will then flower freely during the Summer and Autumn.

No. 166. LOBELIA GRACILIS.—A dwarfish perennial of 4 to 6 inches in height, with blue flowers. Of the same family as Cardinal Flower. The *gracilis* is little known in this country. Sow early in May.

No. 167. GRAND FLOWERING MALOPE.—(*Malope Grandiflora*).—A fine annual, 2 to 3 feet high, with large rosy crimson flowers, blooming from June to October. Sow in a hot-bed and plant out in May, one foot apart, in rows 2 feet distant. They will bloom later in the season when sown in the open ground in early Spring.

No. 168. SWAN RIVER DAISY.—(*Brachycome iberidifolia*).—An annual of dwarf habit, growing 6 to 8 inches high, with dark blue, pink and white flowers which open from July to September. Suitable for massing. Sow in early Spring.

No. 169. BEAUTIFUL CLARKIA.—(*Clarkia pulchella*).—A hardy Rocky Mountain annual, of decided beauty, growing 1 foot high. Flowers light purple, opening from June to September. Sow last of April or first of May. A good border flower.

No. 170. EVENING PRIMROSE.—(*Oenothera biennis, macropoda, etc.*)—Biennials of marked beauty, but not sufficiently known. Most of the species are low growing, with yellow flowers, some of which are 4 or 5 inches in diameter, and expand in the evening, whence the name. Sow in May, and transplant in October or November, setting 1 to 2 feet apart. Some species give a white bloom. Others assume a perennial habit.

No. 171. FORGET-ME-NOT.—(*Myosotis palustris, arvensis, etc.*)—Low growing perennials with delicate flowers of light blue color, with white or yellow eyes. Blooms in spikes or clusters, frequently the same season of planting. Sow in early Spring. Grows 6 to 9 inches high.

No. 172. HONESTY (*Lunaria biennis*).—A biennial, flowering the second season from seed. Remarkable chiefly for the transparent, oval, and thin seed covering, which remains a long time upon the plant, and, on account of its singularity, is much used in bouquets or collections of everlasting flowers, grasses, etc. Its flowers are large, of a purple color, and open early in the season. Sow in May.

No. 173. MIXED LARKSPURS (*Delphinium consolida*).—Annals of white, rose, pink, blue, and variegated colors, growing from 2 to 3 feet high. Some of the species are double and very pretty. Flowers in spikes, for a long time in succession. Sow at any time in May or earlier, as they are very hardy.

No. 174. MIXED PANSY (*Viola tricolor*).—"Heart's Ease," or "Lady's Delight" is an old favorite. They are perennials, but when sown quite early, often bloom the first season. Some of the newer varieties are very large and pretty, with their variegated, violet striped, yellow and pink flowers. In our latitude many of them are biennial, dwarf, and adapted for massing.

No. 175. MIXED SALPIGLOSSIS (*Salpiglossis atropurpurea, atrococcinea, azurea, etc.*)—Originally from Chili, where they are perennials, but with us they are biennials, or even annuals when sown early in frames, and afterward planted in the open ground. They grow from 1 to 2 feet high.

No. 176. TOM THUMB NASTURTIUM (*Tropaeolum nanum*).—Similar in flower and foliage to the *Tropaeolum majus*, or large nasturtium, except in their dwarf habit, and compact bush form. Gay scarlet flowers, open from July until killed by frost. The seed capsules are used for pickling. Sow at any time in Spring, in rows 2 feet apart, and thin to 1 foot in the row. Annuals.

No. 177. QUAKING GRASS (*Briza gracilis*).—An annual of 3 feet high, the nodding panicles of which are very curious, much resembling the rattles of a rattlesnake, and when dried are handsome ornaments with other grasses or flowers. Seed may be sown in Autumn, or safer in early Spring.

No. 178. EVERLASTING PEA (*Lathyrus latifolius*).—A perennial red flowering pea, growing 6 feet high, and requiring a trellis or other support. As the roots run deep

in the ground, it is better to sow seed where it is to remain. Blooms the second season. Some varieties have white, others dark red flowers. Sow at any time in Spring. It is very pretty.

No. 179. EVERLASTING FLOWER (*Xeranthemum annuum*).—Annuals, some with purple, others with white flowers. Grows 2 feet high. The dry leaves of the calyx retain their form and color for years, like the globe amaranth. Sow in early Spring. Makes a fine border plant.

No. 180. CENTAUREA (*Americana*).—Purplish pink, or blue annuals, 2 feet high, discovered by Nuttall on the Arkansas river. Flowers large, and quite pretty. Sow in April, and thin to one foot, in two feet rows.

No. 181. JACOB'S LADDER.—(*Polemonium album, caruleum, etc.*)—Called Jacob's Ladder from the leaflets upon each side of a common stem, suggesting a ladder. Grows 1½ to 3 feet high, with white and blue flowers. The terminal flowers are quite pretty, as they nod gracefully with every breeze. Sow in early Spring. They are perennials.

No. 182. SWEET ALYSSUM.—(*Alyssum maritimum*).—An annual, nearly 1 foot in height, flowering in long racemes, from June to November, or until killed by frost. White and fragrant. Sow in early Spring and thin to 1 foot apart, unless massed, for which it is well suited.

No. 183. FRENCH AND GERMAN ASTERS.—Superb annuals, partly from varieties on exhibition at the *Agriculturist* office as described on page 309, Vol. 19, (October No.) Some idea of their value may be gained from the fact that we paid \$100 for three pounds of seed. As seed could only be had in limited quantities at any price, our packages will necessarily be small, as we wish to make 50,000 to 75,000 packages of them. Our collection includes 138 of the finest varieties, a considerable number of which will be found in each package given out. Sow at any time in May, in rows 18 inches apart, and thin to 6 inches in the row. Flowers of nearly every shade; dwarf and giant, and ½ to 1 foot high.

Seeds for Free Distribution in 1861.

[SEE REMARKS ON PAGE 3.]

Each subscriber for the twentieth volume of the *American Agriculturist* (1861) is invited to select four or five parcels of seeds from the list given opposite—provided the following conditions be noted and complied with.

A. It is of absolute importance that the following directions be strictly carried out, even to the minutest particulars. We have 77 distinct varieties of seeds, to be distributed among 100,000 or more persons scattered all over the country, which at the best will involve immense labor, and occasional mistakes must unavoidably occur, unless each subscriber take special pains to facilitate the work.

B. The seeds can be called for at the office, (after Feb. 20,) or be sent by express, or in ready prepared envelopes furnished by the subscribers, as described (E.) below.

C. Subscribers at different points can estimate whether they can receive their seeds cheapest by Mail to separate individuals, or in a package to the whole Club by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, using the numbers in the Catalogue. Keep a copy of the list sent, and give particular directions on each list, how the package is to be forwarded, and to whom directed.

E. If to go by mail, the applicant will (of course) furnish prepaid envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelope, and put all the postage stamps upon the right side of the envelope, one above the other, when two or more are needed, as shown in this pattern. Arranging the stamps thus, will prevent the seeds being crushed in the stamping process in the Post-Office. One ordinary envelope will generally hold the amount of seed-packages carried by two or three stamps. *The amount of stamps can be calculated from the Catalogue. Single 1-cent stamps on letters are of no value, unless there be even three of them, as letter postage is rated by the half ounce.*

F. Let all letters referring to seeds, be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seed should be on a slip of paper, separate from subscriptions and other matter. (We shall probably distribute over five hundred thousand packages, and a minute's time saved on each of these would amount to 833 working days—or nearly three years!)

G. Canada subscribers will need to substitute U. S. 10-cent stamps (or money) in all cases where 3-cent stamps are named in the catalogue. When several persons send together, it will usually be cheaper to receive seeds by Express (Postage is not necessarily prepaid here, on Canada letters.)

H. Always put the stamps upon the envelopes, and not drop them loosely into the enclosing letter.

I. It is always better to send envelopes of the ordinary size, and made after what is called the "Government pattern"—that is, those in which the back comes fully up under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed.

L. Those forwarding unpaid envelopes, will, of course, not be disappointed if they do not return. We offer seeds free, but can not, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed direct, to avoid its being overhauled at the Distributing offices.

N. We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of January, February, and March. Those going to distant points, and where the seasons are earliest, will be mailed first.

Seeds to California, Oregon and Washington Territory.—The same regulations apply here as in the Eastern States. The postage will be only 3 cents per half ounce, as we shall send all such envelopes to be filled by a friend in California to whom all the seeds will be forwarded by express, in bulk, in sealed tin cases, thus ensuring them safer carriage over the Isthmus, and saving postage to the recipients.

LIST OF SEEDS.

[Descriptive Notes upon these seeds are given in the preceding pages. The figures denote the order in which the seeds have been added to our Free Seed Catalogue. These numbers are upon all packages, seed drawers, etc., and are used in place of the names of the seeds.]

Field Seeds.

- 140—Imported Giant Wheat, requires ½ of a 3-cent stamp for postage on each package.
2—Improved King Philip Corn—Single, double, or triple packages, as desired, requiring one, two, or three stamps.
3—Stowell's Sweet Corn.....Same packages as No. 2.
141—Darling's Early Sweet Corn....Same packages as No. 2.
142—Yellow Stone Turnip.....½ of a 3-cent stamp.
143—Waite's Eclipse Turnip.....½ of a 3-cent stamp.
98—Long Red Mangel Wurzel.....One 3-cent stamp.
101—Improved Long Orange Carrot.....½ of a 3-cent stamp.

Vegetable or Garden Seeds.

- 8—Daniel O'Rourke Pea.....Packages same as No. 2.
9—Champion of England Pea.....do. do.
58—Napolcon Pea.....do. do.
130—Great Eastern Pea.....One 3-cent stamp.
12—Green Kohl Rabi.....One-third of a 3-cent stamp.
13—Enfield Market Cabbage.....do. do.
145—Flat Dutch (Winter) Cabbage.....do. do.
146—Early Battersea Cabbage.....do. do.
147—Neapolitan Cabbage Lettuce.....do. do.
148—Long dark Blood Beet.....do. do.
149—Extra early Bassano Beet.....do. do.
74—Solid White Celery.....do. do.
150—Early Paris Cauliflower.....do. do.
151—Yellow Danvers Onion.....do. do.
95—True Hubbard Squash.....do. do.
152—Fine large Cheese Pumpkin.....do. do.
153—Large Red Tomato.....do. do.
154—Ice-cream Water Melon.....do. do.
76—Skillman's Netted Musk Melon.....do. do.
103—Sage.....do. do.
155—Long Cayenne Pepper.....do. do.
156—Summer Savory.....do. do.
157—Long Prickly Cucumber.....do. do.
17—Red Strap-Leaf Turnip.....One half of a 3-cent stamp.
71—Long White French Turnip.....One 3-cent stamp.
107—Giant Asparagus.....do. do.

Flower, Fruit, and Ornamental Seeds.

- 89—Cotton Plant (2 kinds, mixed).....one 3-cent stamp.
111—Castor Oil Bean (Ornamental).....½ of a 3-cent stamp.
On an average about five of the following varieties will go under a 3-cent stamp.

- 160—Raspberry Seed.....(for Experiments.)
161—Currant Seed.....do. do.
162—Gooseberry Seed.....do. do.
163—Strawberry Seed.....do. do.
23—Mignonette, (a.)
25—Mixed Nasturtium, (a.)
27—Extra Cockcomb, (a.)
29—Double Balsams mixed, (a.)
30—Tassel Flower, (a.)
31—Chinese Pink, (a.)
32—Portulacacae, mixed, (a.)
33—Cypress Vine, (a.)
42—Foxglove, (b.)
49—Candytuft, (a.)
51—Phlox Drummondii, (a.)
86—Euphorbia, mixed, (a.)
87—Coropsis, (a.)
122—Mixed Canterbury Bells, (b.)
123—Gilia nivalis, (a.)
124—Whitlavia, (a.)
126—Long-tubed Centranthus, (a.)
164—Sweet scented Ageratum, (a.)
165—Cobaea Scandens, (p.)
166—Lobelia gracilis, (a.)
167—Malope Grandiflora, (a.)
168—Swan River Daisy, (a.)
169—Clarkia pulchella, (a.)
170—Evening primrose, (b.)
171—Forget me not, (b.)
172—Lunaria biennis, (b.)
173—Mixed branching Larkspur, (a.)
174—Mixed Pansy, (p.)
175—Mixed Salpiglossis, (a.)
176—Tom Thumb Nasturtium, (a.)
177—Ornamental Grass, (a.)
178—Lathyrus latifolius, (a.)
179—Xeranthemum annuum, (a.)
180—Centaurea Americana, (a.)
181—Jacob's Ladder, (p.)
182—Sweet Alyssum, (a.)
183—Mixed French and German Asters, (a.)
a, annual—b, biennial—p, perennial.

GERMINATION OF SEEDS.—It is stated by M. André Leroy, that seeds, naturally protected by a fatty or oily pulp, may be readily made to germinate by crushing the pulp in potash water, and then rubbing the seeds in fine sand. Those of Magnolias, Hollies, Yews, and the like, which will often lie in the ground for a couple of years without growing, while the outer pulp is decaying, are said to come up readily after having been thus treated.

Sorghum at the West.

The foundation of the wide-spread culture in this country of the Sorghum, or "Chinese Sugar Cane," was without doubt laid by the *American Agriculturist*. Tens of thousands of little parcels of seed were distributed free from this office, and scattered broad-cast over the country, giving all who desired, a chance to try it on a small scale without expense. As we predicted, it has not been found adapted to the far north, but it is fast becoming a staple crop in the southern tier of the northwestern States, particularly in Iowa and Illinois, and more or less in Indiana and Ohio. We must be excused if we take a little credit for having enabled the country at large to experiment so cheaply with a new plant. Generally, when any new plant comes before the country with such a flourish of trumpets as attended the first introduction of the sorghum, a few speculators secure a monopoly and reap a fortune. The publisher of the *Agriculturist* at once procured from foreign sources nearly fifteen hundred pounds of the seed, and offered it in small parcels, free to all his subscribers desiring it. It paid him, as an advertisement, but the country was none the less benefited. The same course will be adopted again with respect to other plants, should occasion call for it.* The constant advice of the *Agriculturist* was, that people should only try it on a small scale, and where this advice was followed, no one suffered loss. The seed thus disseminated was rapidly multiplied, and wherever the plant seemed to flourish, it was further experimented with. Now, while it has been discarded in a majority of localities, in many other places it is cultivated quite largely, and with promising results.

The reports from the West for the past season are encouraging. Lest, from our connection with the plant, we might be thought to be prejudiced in its favor, we will let our contemporaries speak. The *Prairie Farmer*, referring especially to Illinois, says: "The people of the West are succeeding in its culture and manufacture beyond even the highest hopes of its friends. More syrup and sugar is being made from it this year in the West than ever before—more seed will be planted next season than was planted the present. The syrup and sugar, grown and manufactured on our soil, will save our farmers a heavy tax, and are a source of wealth, which western farmers will scarcely ignore for some time to come."

An Ohio correspondent writes to the "Friends' Review," of Philadelphia, that a large amount of excellent molasses has been made from the Sorghum and Imphee in his vicinity. He says: "The quality of the syrup this year is so much superior to what it has been heretofore, that the cultivation of the cane will become very common among farmers. I know of seven mills in

operation, and the least quantity from any one manufactory, is over 300 gallons. More than 700 gallons were made at one of our mills."

A correspondent of the *Farmers Advocate* (Illinois), says: "I have made 5,000 gallons of very good syrup this Fall, which readily sells for fifty cents per gallon. . . I have raised two good crops of cane upon sod ground, and I think it the most profitable that I can put on such land. Our light shallow soil gives 100 gallons syrup per acre, while good rich land yields 200 or more gallons."

SUGAR ESTATES OF CUBA.—From a work on the Sugar Estates of Cuba, by Charles Rebello, British Vice-Consul, it appears that there were in full operation in Cuba last season, 1365 Sugar Estates, which produced 1,127,348,750 pounds, worth \$45,093,860. On these plantations 691,917 acres are planted with cane, and 1,289,650 acres used for other purposes.

Extensive Draining

T. C. Maxwell & Brother, nurserymen of Geneva, N. Y., have, according to the *Country Gentleman*, expended \$5,000 in draining their land. Fifty miles of drain tile have been laid down, at a cost of \$100 per mile. Upon the last 30 acres drained, the expense of opening the ditches was reduced from 34c. to 30c. per rod, by using the common and subsoil plow to loosen the ground. The soil is a gravel and clay loam, with a hard clay subsoil in some places. The owners consider that the heavy expense has been fully repaid by the improved condition of the soil.

Frozen Seed Corn.

Daniel Steek, Lycoming Co., Pa., writes that the early selection of seed corn is important to prevent damage from frost before the kernels are dry. After the grain is matured, it still contains a considerable amount of moisture. If it be frozen before this moisture is evaporated, the germinating power will be injured or destroyed, although in other respects the corn may be sound. This fact, he thinks, accounts for many failures of seed supposed to be good: the difficulty could not be discovered by any appearance of the corn. Mr. S. thinks that where corn remained in the field, exposed to the severe freezing weather of last Nov. 24 and 25th, it is in most cases rendered unfit for seed. Those who failed to select and dry their corn before that time, would do well to make provision for next Spring's planting, either by saving enough of the old stock which is known to be good, or procuring a supply from reliable sources. A stitch in time saves nine.

For the *American Agriculturist*.

How to Preserve the Agriculturist.

We have just finished reading up our last number, and as it closed the year we put it by for reference, in the following simple way: Two strips of wood, a foot long, a quarter of an inch wide, and an eighth of an inch thick, were taken, and three holes bored in each; one in the middle and one an inch and a half from each end. Then the two leaves from the last number, containing the title page and contents, were placed in front of the first number; a sheet of brown paper was folded for each side of the book; the twelve numbers were neatly laid together, and a cord passed through their backs and through the strips of wood and tied, and there

was a volume for our pains. This is not equal to binding, but answers a good purpose for those who are not convenient to a book-binding.

Chester Co., Penn.

WM. KITTE.

CUT POTATOES FOR SEED.—A. G. Hazeltine, gives in the *Country Gentleman*, the result of a trial of cut and whole potatoes planted side by side. The whole potatoes planted were of large size; yield less than the others, of inferior quality, and knotty appearance. The yield from the cut potatoes, with one eye to the hill, was the largest in every case, and of uniform size and fine shape.

A LAND SALE OF THE RIGHT SORT.—We see it reported that the Land Department of the Illinois Central Railroad has recently sold 3000 acres of land in Shelby County, to a company of sixty German farmers from Western New-York. If this report be true, we can testify from personal observation to the value of this accession of farmers to the Prairie State. In Southern Ohio there is a most flourishing agricultural neighborhood settled by a similar company from the same locality, some 25 years ago, as near as we can remember.

MUSTY BARRELS can be cleansed and rendered sweet by putting in them a pint of unslacked lime, adding one or two gallons of water, and shaking thoroughly. After standing three or four hours, rinse them with cold water.

WHICH WAS "SOLD."—Jones was riding up in Westchester County, N. Y., and saw a board nailed up on a post in the yard of a farm-house, with the sign painted on it, "This farm for sale." Always ready for a little pleasure, and seeing a woman in checked sun-bonnet pieking up an apronful of chips at the wood-pile in front of the house, he stopped, and asked her, very politely, when the farm was to *sale*? She went on with her work, but replied to his question instantly: "Just as soon as the man comes along that can *raise the wind*." Jones drove on.

What the Humbugs are Doing.

The publisher of a certain paper, smarting under the showing up some of his operations reviewed in a former article, sneeringly asks: "Why does the *American Agriculturist* go out of its legitimate sphere, to be prying into other people's concerns?" *Answer.*—This querist and others of his ilk, are continually imposing upon the public, seeking their money under false pretences, and it is exactly appropriate to our sphere, to put the public on their guard by general warnings, and by specific examples when needed. The *Agriculturist* circulates largely among rural people, who are not familiar with the arts of swindlers, and as we have before stated, they are, as a class, more honest themselves, and therefore less likely to be on the look-out for deception from others. Swindlers understand this, and hence nine-tenths of all their efforts at imposition are directed at rural people. We are somewhat familiar with their operations by former experience, and being so situated that we can trace out their deeds, it is peculiarly our province to do what we can to guard the public. So far, therefore, as may seem desirable, we shall follow up the subject.

Some of these swindlers are so guarded in their operations, that it is proper for us to only allude to their plans in a general way, and leave our readers to draw their own inferences. For example, within a stone's throw of our own of-

* Many of our readers will be interested in the origin of our seed distribution. In the Spring of 1856 we sowed a small plot with sorghum seed obtained from France. In Autumn we described the experiment (see Vol. XV, page 305) and offered our own seed in small parcels to such of our subscribers as would provide a ready directed post-paid envelop to carry it in. Scarcely was this offer published, when a party called and offered us half a dollar an ounce, saying "the newspaper reports had made the people at the west crazy for it, and he could sell it out in small parcels at the rate of \$5 an ounce." We of course refused to part with it, having promised it to our readers. The hints thus received from the would-be speculator, led us to procure a large supply of seed, as above stated; and from this point we commenced our general annual large distribution of various seeds, which has grown to be an important department of our enterprise. Other publishers are adopting a similar course with ourselves. Almost or quite a million separate parcels of good seeds have already gone out from our office.

rice is an establishment (we hardly know its present name, it changes so often), which has had half a dozen branches, more or less, carried on under different names—the post office address is the same for a part, while other branches are located in different streets. We know that one man pays all the printing bills for each of these concerns, while those receiving their circulars, would naturally conclude that they are distinct parties. This enables the same man to humbug the same individual under a variety of names, and with different schemes. Under the name of one firm, he offers one or more journals, with “splendid prizes” of various kinds. Under another name he proposes to furnish books of sundry kinds with numerous “gifts” to each purchaser. Under another name magnificent engravings are offered dog cheap, with one or more gifts, and a chance at prizes of four to five hundred times the value of the small amount of money you are asked for. Valuable agencies are proposed to all who become his costumers.

Under one name a catalogue of books was sent out through the mails, so plausibly worded that a multitude of persons were led to send in their money. Numerous complaints have come to us, that nothing could be heard of money so sent. We forthwith applied at the establishment for redress, and were coolly informed that there was such a man there a few weeks since, who merely rented a desk, but “he left a week or two ago for Philadelphia, and we can tell nothing of his whereabouts.”

Go into this establishment on any day, and you will see a number of persons industriously at work mailing private circulars by the tens of thousands to all parts of the country. It is certain that patronage is received, or the business would not be continued.

Such parties will continue their operations in some form as long as they can find dupes. The main root of the matter lies just here; many persons believe a dollar's worth of goods can be obtained for a dime. Sharpers play upon this belief. They promise great gains for little pains—a fortune for a dollar invested in a lottery scheme, a farm for a trifle, a gold watch for a song, and so on to the end of the chapter. They skillfully arrange their plans to meet the desires and raise the expectations of their intended dupes. They will continue the game in some form, until all learn the simple truism that *no man can make a living by doing a losing business*. The expense of printing and distributing circulars by the hundred thousand, the risk of detection and punishment, in addition to the means of livelihood, must all be paid for. Whenever, then, a man advertises to furnish goods at rates greatly below their value, somebody must suffer—when he does it as a business, those who buy will be the losers; for the advertiser can live only by swindling. So, then, no matter how plausible a circular may look, if it promises to give more than an equivalent for your money, it conceals a cheat; burn it without further examination, or use it only to expose the swindle, and put others on their guard.

Here are a few examples of the operations now being carried on.

GIFT ENTERPRISES.

A firm in New-York, in their circular, which was received by one of our subscribers, profess to carry on a “Great Newspaper and Periodical Enterprise.” They offer “to furnish any weekly or monthly journal at the regular subscription price, and to give to every subscriber of \$2 for publications, a handsome gift, worth from 75 cents to \$100.” Among the list of periodicals,

for which they solicited subscriptions, we noticed the *Agriculturist*; and having never authorized them, or any other parties, to offer this journal on such terms, we proceeded at once to look up the establishment. Upon inquiry at the place to which their letters were to be directed, we were politely informed, that they had vacated the premises, leaving the landlord *minus* a month's rent. The only notice they gave of departure, was by a note slipped under their landlord's door in the night. What sort of gifts would such parties be likely to bestow? They took in all the money they could get, until parties began to inquire after it, and then shut up shop—and are doubtless now operating somewhere else under a new name, and in some new scheme.

A CHARMING HOME FOR LIFE!

Who would not bite at such a bait? Are we not all working for this very thing by day, and dreaming of it by night? But here lies a pamphlet, issued by a firm in this city, giving a chance of securing one valued at \$10,000, by the payment of only \$1; also a chance for four fine farms in the state of Iowa, “valued at” over \$5,000; also \$50,000 worth of jewelry; also Ladies' Needlework Collars; also Linen Handkerchiefs, etc.; also ten first quality double-thread sewing machines; also many other things. The pamphlet contains a full description and engraving of the “Charming Home,” and almost pathetically appeals to the reader to send his dollar, and secure a chance. A long catalogue of books, engravings, magazines, etc., etc., is given, which they offer for sale with the prices annexed. They say: “We will present to each purchaser with EVERY article of one dollar or more, ONE of OUR rich and valuable gifts, and one of the land certificates.”

To make this more emphatic, and prevent any misunderstanding, they say in addition: “The purchaser under our system receives: 1st. The article ordered. 2d. A gift, frequently of much greater value; and, 3d. The land certificate, giving him a chance of securing a charming home for life.” Only three pages further on, they say: “We propose to sell...any Book or Engraving in the American Market...at the lowest retail price; and for any Engraving at one dollar or over, to give one of our rich gifts, or a certificate of one share in the Home and the farms, the purchaser to take his choice. Where no choice is expressed, we shall send the certificate.” This appears to be not exactly “on the square.” Again, supposing a purchaser to receive his “certificate of a share.” What use can he make of it? Are the shareholders to draw for the “home”? or is it to be divided and served out in small parcels? On this subject the pamphlet is silent. In absence of this necessary information, we conclude the “certificates” are worth the paper they are written on, and no more. Again, there is no limitation to the number of shares to be issued; the “home” may serve as stock in trade for the concern for fifty years, for all that appears to the contrary, and if one hundred thousand dupes can be found, the proprietors will, in the course of time, make a “nice little thing out of it.”

But will not the jewelry, etc., promised, pay for an investment? No. One of this very firm said in substance to a friend of ours, “we always know what article to send, and the value is in proportion to the amount of books sold. For a dollar, some cheap trinket is thrown in. If any one wants a watch, the order must be large enough to make it pay.”

The whole thing amounts to just this; you

may get what you pay for; but the deceptive nature of the promises made by these parties, is not calculated to inspire unlimited confidence in their business transactions.

We have dwelt at length upon this matter, from the fact that this firm are said to have capital sufficient, and intend to extend their operations throughout the land. It will be entirely safe for our readers to “let them, and all similar concerns alone severely”—we shall not.

The Lottery Swindle Again.

Can it be necessary to say any thing more to the readers of the *American Agriculturist*, on the subject of Lotteries? We should certainly believe nothing more was needed by our older readers, yet it may be well to occasionally note a new dodge of the ticket sellers—partly for the benefit of new subscribers, and partly that the agitation of the matter, and talking it over by our readers, may, perhaps, be the means of putting on their guard those of their neighbors who are not so wise, or so fortunate as to avail themselves of the benefit of these columns. It is certain that plenty of people are still patronizing these lottery dealers, otherwise they would not continue to send their circulars broadcast over the country at so large an outlay for printing and postage. We desire to do our part towards diminishing their patronage.

Let us premise, that no man who understands the working of lotteries, can be persuaded into investing his money in them. The victims are among those who are under the impression that these concerns are honorably conducted, and that they do afford a reasonable chance of a large return for a small investment. The few cases of reported success, which are held up in such glowing colors by the interested parties, dazzle them, and they permit themselves to be led blindly into the snare. They forget that before any chance at all is given to ticket buyers, the managers first secure to themselves a large sum for profits and immense expenses. They forget that for every case of reported success there are a vast number of unsuccessful buyers. But we can not stop to discuss the subject—our present object is to notice

THE LATEST LOTTERY DODGE.—We are in receipt of a great number of *Lithograph letters*, so well executed as to appear like genuine letters of hand. These have been sent to persons in various parts of the country, in most cases marked “private” or “confidential.” They purport to come from some “Old, successful, etc.” ticket selling firm. The special temptation is, that the writers of these “confidential letters” profess to desire to send a magnificent prize to the persons addressed, so as to create a sensation in their several neighborhoods, and thus build up a future business there. Their letters are so worded as to leave the impression upon the recipient of the letter, that he, and *he only*, is selected to be the fortunate recipient of the prize in his own region. In one case we hear that nearly one hundred persons in a single town each received the same proposal, viz.: that for \$20, a prize of \$5,000 to \$50,000 was almost certain to be secured—and all for the purpose of getting up a future business in that locality! The prospective business to be derived from that town must be large, if to merely build it up, the lottery dealers can distribute five million dollars (\$5,000,000) in prizes to the one hundred persons who will barely send \$20 each, or \$2,000 in all. It is an unmitigated swindle.

How Mr. Jones Tilled his Land.

AN INSTRUCTIVE CHAPTER.

MR. EDITOR:—I have "a bone to pick" with somebody, and neighbor Smith will be tempted to pick your bones almost, if you come this way. That dialogue which by some means got into the Advocate, has, I see, been copied into half the papers in the country. It got into our own county paper, and our neighbors having read it, have applied it to Smith and myself, and when I meet a neighbor, he doesn't say "Good Morning Jones," as of old, but it's always "Good Morning Mr. Big Potatoes." I don't care anything about it, indeed I rather like it—and always answer "let them laugh that win." But neighbor Smith don't like his new name of "Small Potatoes"—though, after all, he rather enjoys the notoriety I suspect; he says, however, there are so many Smiths that none but his neighbors will think that he is *the* man. Moreover, he has confessed to me (we are on good terms) that the dialogue will do him good; and I think it will, for it has set him thinking, and that is just what is needed with most men. Not many let 'their brains save their hands or heels.' He has followed my advice and taken the *Agriculturist*, as you doubtless know by your books; (his name is not John Smith). The extra numbers for November and December which you sent him free, he has read all through, and has borrowed and read a dozen or more of my back numbers, and he says I must look out, for he is going to turn the scales, and beat me on the next potato crop. So, after all, you will be civilly treated even by Smith, if you will call here again next Summer. But this by the way. I commenced to fulfil my promise to describe the previous treatment of that potato field. The history will only be a common plain one, but I will try and make it just such an one as I would like to get from my brother farmers about their fields.

I came here from N. Hampshire, in the Fall of 1836, and bought this farm of an earlier settler who had just made a beginning, building a log cabin, and clearing ten acres, when he got discouraged, and went west to the prairies, glad to get from me \$5 an acre for what cost him \$1.25. I assumed his debts of \$300, and paid him \$500 cash for the 160 acres. This left me a capital brought from the east of not quite \$500, which I used up the first year in getting animals, implements, and seed, and in paying a man to help me clear off the woods. Part of the ten cleared acres was in grass, and the rest I planted to corn, together with eight acres of new land we cleared during Winter. Five acres more we got into oats, and 2 acres into spring wheat. The crops of the first summer were only moderately good, but by close economy we saved enough to get in 15 acres of Fall wheat, and to live through the Winter, our cattle living mainly on stalks, straw, and "browse" or tender twigs.

Well, I kept on in this way, clearing and enlarging my fields, until in 1848, I had about 90 acres under cultivation. We had rather poor buildings, and had barely managed to pay my predecessor's debts and to get my land fenced, and supplied with fair barns and sheds. We stuck to the old log house, which by sundry additions and fixing up, had been kept quite comfortable. We often talked of putting up a frame house, but wife always said: "the old house will do for a while; let us get out of debt, and enough ahead for a good house when we do build."

I intended to keep all my land (160 acres) so as to have enough for myself and boys, one of them nearly a dozen years old; but some of my

older fields more distant from the barn, and not manured, began to show wear, and the constant advice of the *Agriculturist* to sell off part of my large farm and apply the proceeds to the rest, finally told on me, and so in 1848 I fixed up a log house and offered 60 acres (including 10 of my cleared land) for sale, at \$25 per acre. It was taken by one of my old New-Hampshire neighbors—\$600 cash, and \$900, in nine annual payments, with interest.

We devoted \$500 to putting up a frame dwelling, in the Spring of 1849, in such a form that it made the rear part of a larger structure which was erected in 1855. As we got out the timber during Winter, and hauled the sand and lime for plastering, etc., our \$500 went a good ways in erecting a comfortable dwelling.

The extra \$100 cash, together with the \$100 and interest annually coming in, I had fully determined, through the advice of the *Agriculturist*, to devote to the purchase of clover seed, and to ditching, subsoiling, and other improvements. (I got the first subsoil plow seen here.) This determination I adhered to strictly, and the good effects were so manifest that I have often gone beyond the amount annually received in principal and interest from the 60 acres sold off. The general results you have seen, Mr. Editor, and I need not describe them.*

But you wanted a particular history of that one field, so I will give it: The land was a heavy loam, inclined to clay, and covered with tall white and black oaks, with a sprinkling of beech, maple, basswood, etc. I cut out the under brush and all the trees, except the oaks, for firewood and charcoal. The finest oaks, also, I cut down and hauled out for fencing, and building. The rest, say one tree on every two square rods, on the average, I simply girdled and left them to die. The ground was then thoroughly harrowed and winter wheat sown, which yielded a fair crop. Many of the trees were blown down, which necessitated the use of the sickle instead of the cradle in many places.

The high winds of the Autumn and Winter following, turned many of the trees out by the roots. The rest we cut down. After taking out a year's supply of firewood, and one or two lengths for rails from such trees as would answer, we commenced clearing. Instead of chopping up the fallen trees, we burned them into suitable lengths for log-rolling, by placing broken limbs across the bodies every dozen feet or so and kindling a fire. By using the brands, we were able to burn through most of the logs. In two or three days of dry weather a man can in this way burn in two, five to ten times as many logs as he can cut with the ax. The logs and limbs were piled in heaps and burned, and the ashes gathered and spread upon my meadows. This plan of clearing is the easiest and

[Yes, we have seen them: Mr. Jones has a farm that will do any one good to look upon. His fields, though a heavy soil originally, are mellow, deeply worked, and dry. The buildings are not costly, but neat and every way comfortable. He has added 10 acres of woodland by purchase, and cultivates 95 acres of the original 100 left after selling off 60. Finer corn, potatoes, etc., than his, no one could wish. He is out of debt, and has already helped his eldest son some \$700 or \$800 towards paying for a poor run-down farm in the neighborhood, which will doubtless be brought up to fertility by one who has been trained up to habits of economy, and taught to read and think about his business. The old farm is worth at least \$150 per acre for cultivation, and \$115 an acre has been offered for it and refused, which is \$40 an acre more than the market price of similar farms adjacent. It is supposed to be better land, but good, intelligent culture only has made it so, for the soil throughout the neighborhood is very much alike. We call Mr. Jones a rich man—he is independent, has a sure source of income, and is contented, which is more than can be said of multitudes who have more acres, or vastly more money value in other property.—Ed.]

cheapest I know of, and I describe it particularly, as it may not be generally known. [It is extensively practiced on heavy timbered oak lands at the West.—Ed.]

The next Spring I plowed the field after pulling out all the stumps we could, and planted it to corn, getting a good crop, besides a splendid yield of pumpkins. In the Fall I sowed it to wheat, and sowed clover seed liberally in the Spring. It was pastured the next Summer, and mowed the Summer following. Most of the stumps then came out easily. The second growth or aftermath of clover was turned under, and wheat sown with clover seed in Spring again. It was pastured in Autumn and mowed in Summer following. In Autumn it was turned over deeply, light plowed in Spring, and corn planted, yielding only a fair crop. I now concluded to experiment upon this field with some of the hints I had gathered from the *Agriculturist*.

SOLOMON JONES.

[The details of Mr. Jones' experiments are interesting and instructive, and being lengthy, we reserve them for a second chapter.—Ed.]

The Farmer, the True Aristocrat.

N. P. Willis, of the Home Journal, says: "The star of the farmer is on the rise. To be a distinguished man now-a-days, there is no safer or more substantial way than to be an 'eminent agriculturist,' 'successful horticulturist,' or the like—a Longworth, a Wilder, a Grant, a Johnson. There is no way for a man to be 'looked up to,' for the next half century, like being an enterprising and successful farmer, and there is certainly no way to pass life so pleasantly, and no vocation which is so sure to keep him company till he dies."

A Stack Shed.

To the Editor of the American Agriculturist.

Farmers in this vicinity thresh their grain and throw the straw in a pile out of doors at the barn, for the cattle to run to all Winter. Without a very large barn it is difficult, in threshing with a machine, to avoid doing so. I have improved somewhat on this mode. Instead of throwing the straw on the ground, I set nine forks of trees, say a foot in diameter, firmly in the ground, in three parallel rows, about 16 feet apart one way and 7 feet the other. I then put logs across lengthwise, and laid poles and rails over them, on which the straw was stacked sloping like a roof. It is high enough for cattle to go under. They pull down enough and not too much for bedding, and keep in good condition with very little grain. The manure is kept under cover, and they seem to be comfortable. This is perhaps not the best way, but it is better than many do; is very little expense (only about two days work for two hands) and is the best that many can do.

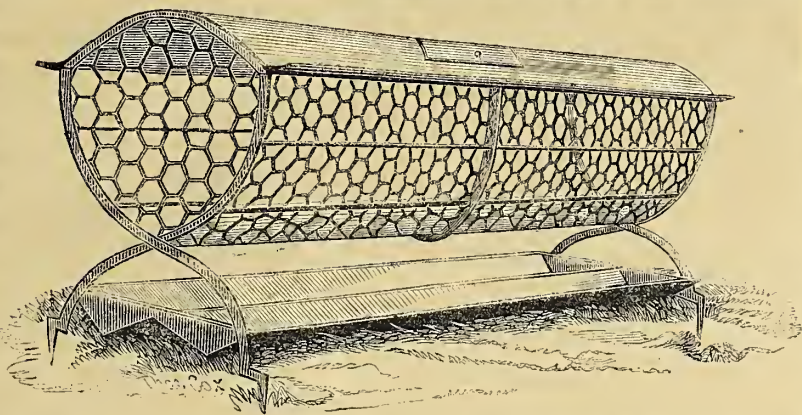
Hamilton.

JOHN R. LEWIS.

FAWKES' STEAM PLOW.—This was exhibited at the Illinois State Fair held at Jacksonville. The trial was made under adverse circumstances, but *eleven and a half acres* were plowed at intervals during the day, with but two men in attendance. At another trial *three acres* of raw prairie were turned over in one hour. This was certainly good work. Some fault is found—we know not how justly—with the recent and past action of the managers of the Ill. State Society, in regard to their not standing up to their premium offers. There are, of course, two sides to this, as to all other questions.

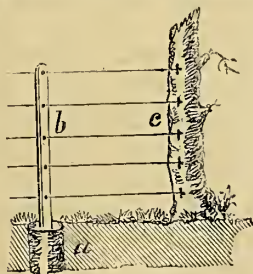
Portable Sheep Rack—A Hint to American Manufacturers.

In the advertising columns of an English Journal (the Mark-Lane Express,) we find a cut from which we re-engrave the accompanying sketch. It appears to be made with an iron frame, covered on the sides and underneath with heavy iron-wire net-work, and on the top with galvanized iron or zinc. A board or canvas covering would answer. Trap doors in the top serve to put in the hay, or the whole cover might be made to raise up. A single or double trough at the bottom catches all droppings. The feet are pointed to stand firmly in the ground. The whole is light and portable, and ornamental withal. They are not very costly, as we notice that they are advertised by Thos. Perry & Son, Staffordshire, (Eng.,) 6½ feet long with double trough, complete, for £2. 17s. 6d., or about \$14 each. Manufactured here they would probably cost a little more, if made with metallic roofs, etc. Any one might prepare something similar, say a 3-sided wooden frame, covered on top with boards, and on the sides with the netted wire. Wire net-work, the meshes or holes 3 inches in diameter, is sold here for 40 to 50 cents per running yard 3½ feet wide. Four yards would suffice for a rack six feet long, and 3½ feet high on the sides.



Wire Fences.

In some localities too far north for successful growth of hedge plants, and where timber and stone are not available, wire fences may frequently be adopted. Manufacturers claim that they are durable, economical, and that they will answer all the purposes of a perfect protection against cattle. This advantage at least they have over hedges, that they take up no appreciable room, exhaust no soil, need no annual shearings, shade no vegetation on either side, and permit the plow and seythe to be used close up to the sides of them.



A

For pleasure grounds, some of the styles offered in market are quite desirable. They may be used for partitions between the ornamental plots and the adjoining pasture or orchard. If painted a grass-green, they are invisible at a short distance. If one has a large area of lawn or park-like surface around his dwelling, and does not wish the trouble or expense of keeping the whole under the seythe, all he needs to do, is to surround fifty or a hundred feet of turf next his house with a light wire fence, keep the grass within it nicely dressed, and let that beyond it be kept trim by flocks of the finer

breeds of sheep or cattle. If the ground devoted to pasturage has any handsome shrubs or low branched trees in it, (evergreens, for instance,) they may be surrounded by movable hurdles of the same material. We have seen the above finely carried out in the grounds of Mr. Sargent, at Fishkill, N. Y.; and similar illustrations may be found in many parts of the country. It

should be added here, that if wire fences are kept painted, they are almost indestructible, and that being so light in their structure they offer little obstruction to the wind, and therefore, are less liable to be blown over than wood fences. The mode of building one of the common styles may be learned from the annexed cut. (A.) Posts of cedar or locust, eighteen inches long and six inches in diameter, are set in the ground, six feet apart. The tops of the posts stand just even with the surface of the ground. (See a.) Iron supports for setting into these, are made by cutting common bar iron, an inch and a quarter wide, and ¼ inch thick, into a wedge-shape. Five holes are then punched in them to receive the wires. They are then driven firmly into the wooden posts, and made to stand as near as possible to the perpendicular. (See b.) Next, the wires are drawn through the holes, and at every hundred feet, or thereabouts, are fastened to stout wooden posts, or trees. (See c.) Experience shows that ordinary posts, however well set, will not answer for permanent braces. Long and heavy tension of the wires will pull them out of plumb, and leave the wires hanging loose. It is therefore desirable to run the fence where it can have the support of a stout tree, at about once in a hundred feet, and better if oftener. In the absence of trees, heavy posts, or bracing, is required.

Annealed wire of the size number 6, is most commonly used; but where there are few tree-braces, or where cattle run, No. 4, or 5, is better. Poor wire is often sold to those who can not judge of its quality: therefore let the purchaser look out for flaws and splinters, or what is called "rotten iron." Coal tar may be used in ordinary places for coating it; though in ornamental grounds it should be painted green. In fastening the wires to trees, holes half an inch in diameter may be bored near one side of the trunk, and the wire passed through and looped. Where the wires pass through the iron uprights, they should be tightened by wooden wedges, thus saving severe tension at the wooden braces and trees. Of course, no one will fail to provide himself with screws (one for every 15 rods) to provide against the expansion and contraction of the wires in Winter and Summer. The agricultural warehouses furnish them at fifty cents each, or less. A fence of this kind can be put up for from seventy five cents to one dollar a rod. If run through a wood or along

its borders, the expense of posts can be mostly saved by using trees instead.

We have lately seen a mixed, wire and wood fence which works very well. The posts are of red cedar; there is a bottom board of pine, six inches wide, and a top rail of pine three inches square. The intermediate three rails are of No. 5 wire. The whole is painted white, and looks well. The wood-work serves to keep the whole upright and firm, and gives the fence an appearance of solidity and finish.

Barreling Apples, Potatoes, etc.

Much loss is sustained upon apples sent to market for want of properly putting them up. The barrels are apparently filled and headed; but in handling, and especially in carting them, the fruit is shaken down together, and every motion jars the whole contents, until nearly every apple is bruised, and the market value is reduced one half. To prevent this, the fruit should be well shaken down in the barrel, and the top layer pressed down by the head, so that no amount of jolting will loosen them. This will bruise a few upon the top, but the remainder will come out safe. The accompanying engravings show a very simple and convenient plan for pressing and holding the head in place until it can be fastened. It was communicated for the *Agriculturist* by D. Lyman, Middlefield, Conn. The figures require but little explanation. By the plan shown in Fig. 1, a piece of scantling or plank is laid across the barrel head when ready for fastening down. A lever, with one end under a block nailed to a post or the side of the building, is brought down and held until the head is properly secured. In Fig. 2, the end of the lever is passed through a ring

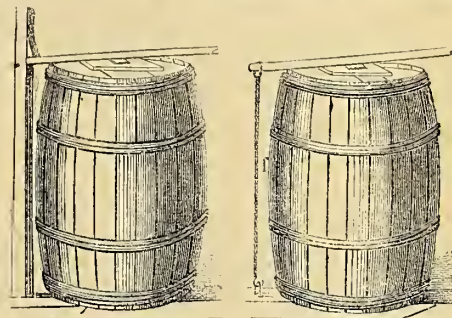


Fig. 1.

Fig. 2.

which is attached to a rope fastened by a hook and staple to the board on which the barrel stands. The latter plan is rather more convenient, as the apparatus can be taken to any desired place where the packing is to be done. To save space, the full length of the levers is not shown in the engravings.

A Husking Peg—Simple and Old-fashioned.

Mr. C. J. Thomas, of Wilcox Co., Ill., refers to the Corn Husker described on page 318 of last volume (Sept. No.) and describes a very simple implement which can be made in a few minutes. As we used the same implement 25 years ago, it occurred to us that it was too common and too generally known to need description. But the first farmer we spoke to about it, said he had never seen nor heard of it. That being the case, we suppose there must be others in the same situation, and for the benefit of such we will describe it, remarking that it is very effectual and very useful in the absence of anything better.

It is made of wood, tough hickory is the best,

about 4½ or 5 inches long, whittled round and smooth, about ¾ inch in diameter, gradually tapering a little, and brought to a somewhat blunt point. To the middle portion a short leather strap is attached for passing the middle finger through. A couple of notches in the wood prevent the strap from slipping. With strong leather, it is sufficient to simply make two holes through it and thrust the pin through. The strap is passed over the finger, and the pin grasped in the hand, leaving the point out facing the thumb. To use it, the point is thrust into the husk, the thumb pressed against the portion of the husk raised from the stalk, and the part thus loosened is torn off. The pin answers the purpose of a fifth finger and nail—saving the natural nails, and much wearing of the finger and thumb.

A Cheap Boiler.

A subscriber of the *Agriculturist*, Moses Park, Walker Co., Ga., describes a cheap boiler, constructed originally for evaporating syrup, which he considers quite convenient for cooking food for animals. It is simply an open box of 2 inch plank, 5½ feet long and 21 inches wide, and 14 inches deep, put together with 2½ inch screws. For the bottom, a piece of thick sheet iron is put on with 1½ inch screws, 2 inches apart. The screws are placed thus thickly to close the joints tight. The materials cost \$3.50; the work can be done by almost any farmer. Besides being cheap and easily made, a boiler of this form presents a large surface to the fire, and is therefore economical of fuel. It can be set on brick work, and in the absence of other conveniences, will well repay the expense in the additional value given to feed for swine and other stock. It is particularly valuable for evaporating syrup, where better apparatus is not easily obtained.

A Puff for Two Churns.

If all the contrivances invented for churning, could be brought together, they would form a museum well worth visiting. There would be the dignified old fashioned upright dash churn, churns of barrel, box, and tub form, some with revolving dashers, some with stationary dashers, others with no dashers at all. Cranks, paddles, cog wheels, and gearing would abound. The butter mill, constructed to grind milk as though it were paint, would divide attention with the goat-skin bag, which the Arab swings to and fro to extract butter from mare's milk. It would seem that little ingenuity need be expended in so simple a process as separating butter from cream, and that is perhaps one reason why so many churns have been invented. The veriest tyro in mechanics can get up an arrangement that will "make the butter come," and as there is no end to the ways in which it can be done, every man has suited his own fancy, and yet accomplished the desired result; so that we have before the public at least three hundred "best churns ever invented." The number is continually increasing, and it is amusing to hear the reasons given for the different arrangements. To-day a man calls upon us to make known to our readers the superlative excellences of a churn consisting of an air-tight barrel, into which air is compressed with an air-pump, to increase the amount of oxygen to combine with the cream. Only yesterday another called to get before the public his churn, in which the air

is pumped out of the barrel, to remove pressure, and hasten the bursting of the butter globules. As both of these parties want a puff in the *Agriculturist*, we hereby give a certificate that butter can be made in each of their implements. The quantity and quality will depend upon the quantity and quality of the milk, and the care in the after processes of working and salting. The "points" of a good churn are simplicity, ease of working, means of thorough agitation of the cream, a form that admits of ready removal of its contents, and ease in cleaning. Many different patterns combine these excellences, and we therefore recommend all such.

Mowing Machine Invention by a Lady.

It is stated in the *New-Jersey Farmer*, that Elizabeth M. Smith, of Burlington, has invented an arrangement to be applied to reaping or mowing machines, by which danger from accidents is greatly lessened. The most frequent and serious casualties in the use of these machines, have occurred from the driver being thrown into contact with the knives while in motion; several cases of loss of limbs, and even of life in this manner, have been reported. By this invention, the knives are "in gear" only while the driver retains his seat—as soon as he leaves it, they cease to work. The end to be attained is certainly desirable, whether the above invention fully secures it, and is otherwise unobjectionable we do not know, not having seen the apparatus.

A New Leather—Alligators Useful.

Not long since we noticed in a shop window in this City, a pair of boots made from leather of singular appearance, having a peculiar wrinkled and sealy look, somewhat as if a hide had been scored and laced in every direction while removing it, and then tanned so as to show all the irregularities. Upon inquiry, we were told it was Alligator skin, properly tanned, and that besides being as pliable as calf skin, it is much more durable than ordinary leather, and completely water-proof.

We learn from the Shoe and Leather Reporter, that the Prince of Wales and several of his suite were much pleased with the new fabric, and ordered several pairs of boots from it. The fashion being thus set by royal authority, we may expect a general onslaught of the reptiles to supply the demand. Perhaps some enterprising Yankee may find it worth while to breed the animals for their hides. The blood might find a ready sale at the Patent Office, when the functionary who recommended it as a specific against insects, comes into power again, while Prof. Somebody would doubtless purchase the carcases to manipulate into progressed manure.

Paper from Corn Husks and Leaves.

It is announced in European journals that by a recent discovery, paper has been made of the leaves and husks of Indian Corn, equal, and in some respects superior to that made from rags. The inventor, Moritz Diamant, is a Jewish writing master, in Austria, where, it is stated, satisfactory experiments on a large scale have been made. If this be true, it is good news to the farmers of this country, and not less so to newspaper and book makers. The price of paper, made from rags, has advanced so rapidly, from scarcity of the raw material, as to form a serious item in the expenses of the publisher.

American manufacturers will not be slow to avail themselves of any advantages this process may be found to offer, and as this is the first corn-growing, and also the greatest book and newspaper consuming country in the world, the success of the invention is a matter of the greatest interest.

Street Scrapings for Manure.

Not the least important source of manure is the road-side. Nearly all highways in the country are "worked" annually in the following way: Several furrows are run on each side of the wagon-track, and then the dirt is scraped or shoveled into the middle of the road, and rounded over so as to shed water. That this ordinarily makes a good road, we would not venture to affirm. But we are very sure that this dirt, so often plowed up and thrown back upon the track, is quite rich, especially on roads that are much traveled, and would make a good dressing for anybody's farm or garden. It contains the washings of the road where the droppings of horses and cattle have been deposited during the year, and mixed with the soil. The turf also which is plowed up, is quite valuable in the composting yard.

Possibly, the road commissioners would object to having this soil carried off: they have a legal right to object. But if the farmer should agree to return a load of good gravel or pounded stones, for every load of soil taken away, it would prevent all complaints. And this would be a good bargain for all parties concerned.

For the *American Agriculturist*.

Liming Lands—Some Hints given and more Wanted.

The questions are often asked: what lands are benefited by the application of lime, how much should be used to the acre, and how often?

Undoubtedly, some lands are more benefited by its use than others. Such, for instance, are clayey soils, which contain large quantities of vegetable matter: the lime acts upon them as a decomposer of organic substances, and fits their elements to become food for growing plants. It renders stiff soils more friable, makes them more easily penetrable by the roots of plants, and more easy of culture. It exterminates sorrel and mosses. On wet, undrained land, it is of comparatively little use; and indeed this is true of every kind of manure or stimulant. Draining is the first requisite on such soils, without which all other applications are time and labor thrown away. [We admit that draining or the removal of water is a prime requisite, yet when this is not done, liming is all the more important for wet soils, to counteract as far as possible the coldness and "sourness" of such land.—Ed.]

In applying lime to cold and clayey land, it should be but partly slacked before using. If wholly slacked, it will not act powerfully upon the strong vegetable substances in the soil, nor neutralize the acids and noxious gases which abound in it. If partly slacked, it can be spread much more readily and evenly. [Unless the lime be thoroughly slacked to a fine powder, it can not be spread evenly, but will fall in lumps. We should say water-slake it thoroughly, that it may be as finely pulverized as possible.—Ed.]

After witnessing the beneficial effects of a single application of lime, some farmers judge

that it may be used annually with similar results, but they soon find out their mistake. It should always be remembered that it does not act like common barn-yard dung, as a manure for plants, but rather as a stimulant to the soil, enabling it to give out certain elements which it already contains for their nourishment. After it has decomposed the better part of the vegetable matter in the surface soil, it should not be again applied there, until that soil has had a period of rest, and has stored up more vegetable matter. Five or six years is none too long an interval between each liming. [We would advise, rather, to make more frequent applications of smaller quantities. What say those having had long experience in the use of lime? Let us hear from them.—Ed.] In the meantime, clover or some other green crops should be grown, and several dressings of barn manure applied. The old proverb is true,

"The use of lime without manure,
Will always make the farmer poor."

While lime is most useful on cold, clayey, or peaty lands inclining to wetness, it may sometimes be used on light or sandy soils, especially if vegetable manures are applied in rotation. It will serve to give them compactness. But on pure sand exhausted by long tillage, it only makes matters worse. As a top-dressing for grass lands, it often acts beneficially. The quantity of lime needful per acre, will depend on the nature of the soil. Sandy lands need only about seventy five bushels to the acre, loams one hundred, and clay one hundred and fifty. [Here again we must differ with the writer. Would it not be better to apply one-fifth to one-fourth the quantity recommended, once in a year or two, than to use so large a quantity at long intervals? We conceive that lime acts mainly to decompose organic matter in the soil. When too much is applied at once, it literally uses up the vegetable matter in a brief time, and makes the soil poorer for some years afterward. But apply a smaller quantity annually, and it decomposes enough matter for one crop, leaving the rest to be similarly used for the following crops.—Ed.]

Lime composted, becomes a manure as well as a stimulant. For this purpose, let it be first mixed with peat or clay, turf or other good soils, and after lying in heaps for a while, it may be spread on the land broadcast. The amount of lime in the compost must be proportioned to the condition of the soil to be manured, a light soil having less, and a stiff one more lime. It may be spread with a shovel from a cart or wagon, choosing a calm, clear day for the work. After it is spread, let it be turned under a few inches deep by a plow—a gang-plow is convenient for this operation. For Spring crops, apply in Spring; for wheat, early in Autumn. Prof. Way, of England, recommends applying lime in solution, mixing it with a large quantity of water, forming what is known as the "milk" of lime, then adding still more water and distributing it over a field by means of pipes, as Mr. Mechi does his other manures. He also advises to use only eight or ten bushels to the acre, and to apply it every two years.

That lime might be expected to benefit land, follows from the fact that every crop of grain, hay, or roots, carries off a good deal from it, and it must be restored in some way or the land will be impoverished. Wheat, barley, oats, or clover, can not be raised in perfection, where lime is much wanting. Potatoes, turnips, and other root crops are benefited by it.

And yet, true as it is, that lime often acts

beneficially, in many cases it produces no apparent effect. Experiment alone can determine certainly where it will be useful. No one should try it expecting such marked results as often follow the use of nitrogenous manures. These last must always be our main dependence. X.

FURTHER REMARKS.—As seen by our notes in brackets, we do not fully agree with the writer, and we have printed the article mainly to call out details of experience from those who have practiced liming for many years, and noted its effects. The subject is one of no little importance. Lime is used vastly more than any other fertilizer—yard manure only excepted. Tens of thousands of cultivators have found it a cheap, profitable application. With some it has been useful at first, but worse than useless afterward, others have derived no benefit, others still have used it for a score of years and continue to do so with good results.—Ed.

Lime Questions to be Answered.

In notes to the preceding article we have indicated some questions connected with the subject of liming land. This is a most important question to three-fourths of the cultivators of our country, if not to all. In a former paper we have set forth pretty fully the results of our experience, observations, and theories upon the subject. (See Vol. XVIII, page 72, March No.) But the best information can be gathered by comparing the experience of a large number of persons who have used lime for a length of time. It occurs to us that we can not do better than to devote a little space in a future number or two, to giving the result of the general experience. We therefore invite experienced practical men to send us answers to the following questions:

- 1—How long have you made use of lime?
- 2—What is the general character of your soil?
- 3—What is its condition as to wetness or dryness?
- 4—What lime do you use?
- 5—What does it cost per bushel delivered at your fields?
- 6—Do you apply it air-slaked, or slake it with water?
- 7—How much do you apply to the acre?
- 8—How often do you apply it to the same field?
- 9—How do you apply it?
- 10—For what crops do you use it?
- 11—Note the results upon different crops, and any other practical information you can give.

If we can get ten, twenty, fifty, or even five hundred sets of answers to the above questions, and condense the results into moderate space, it will afford much useful information, and aid to a correct understanding of an important subject. Let no one withhold his experience, with the idea that others will say enough on the subject. It is quite as important, also, to know unprofitable results as good ones.

Profitable Experiments with Potatoes.

The following well arranged statement of a successful experiment in raising potatoes, is contributed to the *American Agriculturist* by Mr. W. F. Heins, a gentleman engaged in business in this City, but an enthusiastic lover of Agriculture, and a thorough going book-farmer. He says: The ground, which is in working order to the depth of nearly two feet, was plowed and ridged

last Fall, the rows running North and South. In the middle of March, this year, it was again plowed, cross-plowed, and harrowed, and well-rotted stable manure, (3 horse and 1 cow,) was lightly plowed in. On the 23d of April, the drills were made, the compound described below, thoroughly mixed, thrown in the drills, somewhat mixed with the soil, and covered about one inch deep. The seed potatoes, cut in one and two eye pieces, were laid on this, and slightly covered with coarse manure and soil. Equal areas were planted without the compound:

Expenses per acre:	
16 loads manure at \$1 50.....	\$24 00
18 bush. seed at 75c.....	13 50
Plowing, planting, hilling and harvesting.....	8 50
Weeding (which was done most thoroughly,) digging and housing.....	10 50
Total.....	\$56 50

Compound:	
1 bag guano (Peruvian) 160 lbs. at 2c.....	\$4 00
2 bbls. bone sawings.....	7 00
2 bbls. unleached wood ashes.....	1 00
2 bbls. charcoal dust.....	75
1 bbl. land plaster.....	2 00
1 bbl. soil of decayed wood.....	0 00—15 55
Total cost per acre.....	\$72 65

RESULT PER ACRE.—With Compound.					
Names.	Seed, bush.	Crop, bush.	Value at 75c.	Cost.	Profit.
Peach Blows.....	18	293	\$219 75	\$72 05	\$147 70
Prince Albert.....	18	250	210 00	72 05	137 95
Red or purple Chili.....	18	235	176 25	72 05	104 20
Mercers.....	18	210	157 50	72 05	85 45

Without Compound.					
Names.	Seed, bush.	Crop, bush.	Value at 75c.	Cost.	Profit.
Peach Blows.....	18	180	\$135 00	\$56 50	\$78 50
Prince Albert.....	18	174	130 50	56 50	74 00
Red or purple Chili.....	18	152	114 00	56 50	57 50
Mercers.....	18	112	84 50	56 50	28 00

Average with Compound 254½ bushels.	Profit \$118 82½
do. without do. 154½ do.	Profit 59 50
Difference.....	\$59 32½
Cost of compound.....	15 55
Surplus in favor of compound.....	\$43 77

All potatoes planted with the compound, were in excellent condition, but the Peach Blows, planted without, show black spots inside, even when the outside looks perfectly sound. The Prince Albert and Mercers show but little rot, the Red or Purple Chili none.

How much are Carrots worth for Feeding?

This is a question needing to be answered. Carrots are raised more than formerly, but there is no well settled opinion as to their comparative value for feeding. Various theoretical statements have been published from time to time, by writers on farming, and those who are fond of calculating the value of this or that article of food. But, for ourselves, we are still in doubt as to the real value of a bushel of carrots compared with other kinds of food costing the same price. Here is a case in point. (We of course have our own opinion, but we wish to call out others.)

During the past Summer, notwithstanding the drouth, we raised half an acre of very fine carrots on ground trenched 2 feet deep last Spring. We tried to market them in the city, but could not get an offer that would net over 75 cents a barrel, or 20 cents a bushel, so we kept them and are now using them for horse and cow feed. Hay is \$20 a ton; oats 37 cents a bushel; corn 64 cents a bushel, and other things in proportion. The query is, are we making better use of them, than to have sold them at a price equivalent to 20 cents a bushel over the expense of marketing? What say those who have had considerable experience and observation in feeding carrots to stock. We don't care for the theoretical views of those who do not speak from experience—we have a pretty clear idea of their chemical composition, of their "gelatinizing" the contents of the stomach and all that. Few city people will yet buy them for cooking, or for food for their horses, and the market is

likely to be overstocked for a while. But if they are actually worth one-third as much per bushel as corn, we can afford to raise them largely. We think that, on the average, four bushels of carrots are produced as cheaply as one of corn.

One question more. How many carrots per day can be profitably fed to a horse or milch cow with all the good hay that will be eaten?

Abuse of the Sugar Beet.

A journal in a neighboring city informs us that for several years past, beets and mangel wurzels have been considerably cultivated in France for manufacturing brandy therefrom; and that this business is proving so profitable there, that many large establishments, once used as sugar factories, have been remodeled and converted into distilleries for making brandy from the same roots. Progress backward! It tells us, also, that enterprising farmers in England are looking into this matter, and inquiring whether they also may not be able to make a penny or two out of the same business. And, as a sort of poultice for tender consciences, we are told that the pulp of these roots, after the juice has been extracted, may be used as food for stock, and for the manufacture of paper.

In some parts of Great Britain, where high manuring has been practiced, forty tons per acre of these roots have been raised, but from twenty five to thirty tons is a large yield. And, without going into the details of the calculation, it is estimated that from \$400 to \$600 per acre of proof-spirit can be realized. After this we are to add the value of the pulp for cattle-feed and for paper-making, at \$50 a ton.

It is only a necessary part of this story to add, that some American farmers and business-men have turned their thoughts in the same direction. But we question whether any thing good and profitable can come out of the business in Yankee land. Excellent sugar has been made for many years in France from the sugar-beet root. Several years ago, many attempts to manufacture it in this country—in New-Jersey and Pennsylvania particularly—were only partially successful: the syrup would not granulate well. This arose, doubtless, from the lack of saccharine matter in the beet roots. It is doubtful, therefore, whether American beets will make good brandy, at least, so as to be profitable to the manufacturer. Certainly, as long as Indian corn can be raised for from 30 to 50 cents a bushel, it will hardly pay to trouble ourselves with growing beets for sugar or brandy.

But even if the business could be made profitable, we should discourage it from moral considerations. "Ah! Mr. Editor, allow us to make alcohol for use in the arts: to this, certainly, you can't object?" The old apology for carrying on the distillery business everywhere. Very likely, a part of the alcohol may be used in the arts, but a large part will go into rum, gin, brandy, and the like, to ruin our neighbors, and perhaps our children. These evil arts we can only endure, but not recommend, by word or deed.

Large Turnip Yield.

The Ingersoll Chronicle, C. W., records the results obtained by twenty one cultivators, in competition for two prizes of \$20 and \$10, offered by Dr. Connor, for the best acre of turnips. The lowest yield was 664 bushels, and the highest, 1,429 bushels per acre. The latter amount was raised by John Reid. The soil was a clay

loam, previously cultivated with peas. The land was plowed, and twenty loads of manure applied in the Fall. Before sowing, the cultivator was used once, and the roller twice. The seed was drilled in 24 inches apart on the 10th of June. The turnips averaged 5 lbs. and 2 oz. each in weight. Mr. William Agur, of the same township took the second premium for a yield of 1,256 bushels per acre, the turnips averaging 4 lbs. and 3 ozs. each. His manner of cultivation differed little from that of Mr. Reid, the difference in yield being mainly in the size of the turnips, which averaged about a pound less.



Pampas Grass.

The Pampas Grass (*Gynerum argenteum*), so called from its native home, the Pampas, or prairies of Brazil, South America, has been introduced into England, where it flourishes well. From the Magazine of Horticulture, we learn that Messrs. Hovey & Co., have tried it in their grounds near Boston, but it does not prove hardy so far north. They subsequently placed some roots in a large tub which received the protection of a green-house during Winter. It was placed in the open air last Spring, where it made a vigorous growth, forming a splendid tuft of long, slender, rush-like leaves, gracefully drooping to the ground. It began to throw up its strong reed-like stems, during the latter part of August, from which sprang flower spikes that reached eight feet in height, and terminated in feathery flowers fifteen inches long, of a light

or silvery color. In its native plains it reaches the height of twelve to fifteen feet, so that a person riding through it on horseback is completely hidden, and a secure shelter is afforded for the wild animals of that region. It will be prized as an ornamental plant chiefly. At the South it can doubtless be grown out of doors, but with us it will be safest to lift it in the Fall, and take to a dry cellar or green-house. When growing, it requires a warm aspect, light and rich soil, and plenty of water. It is readily propagated by division of the roots.

For the American Agriculturist.

A Lady's Experience with Poultry.

Three years ago I moved into the country, filled with dreams of industry, early rising, and above all, fowl raising. I think my predecessor was also imbued with a like idea, for I found ample and well contrived accommodation for the slender stock of poultry whose existence I had contrived to prolong in a limited back yard, in the close built town I had quitted; and whose numbers and capacity for laying, I now proposed to myself to wonderfully augment.

As Winter came on, I kept my hens shut up on every cold day; which I have proved to be necessary, if you wish them to lay well. The most abundant feed will only keep vitality in their chilly bodies, if they must stand shivering under the cutting winds of mid-winter. True, they will often go out of their own accord, if the door is left open, but they do it only from habit, as instead of hunting for food, they huddle in the most sheltered places near their house.

The hens once warmly quartered, how can they be fed cheaply so as to average one egg daily, in all the 365, and still be kept fat? Profound question, whereon agricultural journals have uttered wisdom from all time! The first winter of my experience, a marvelous recipe stared from every newspaper—impossible, it said, to fail of the above results. It was an ingenious conception. First you were to take a pail of boiling water, endue it with a certain quantity of bran, roast potatoes hot from the oven; then rake out a shovelful of hot coals, and lastly add egg shells, brimstone, and salt. Diabolical, slightly, yet morning after morning, I patiently decocted this infernal broth. It would have drawn tears from any ordinary grindstone, to have beheld the hapless fowls shifting their legs and peering their eyes sadly toward it—weighing, it would appear, the choice of going hungry or scalding their crops with the seething mess. I imagined their steady laying solely attributable to my perseverance, yet the next winter, when abated enthusiasm led me to adopt a simpler method, I could perceive no falling off at all. Hence, I infer, fowls will lay on anything eatable, only so they have enough of it.

I commenced my first Spring with about twenty five fowls, both cocks and hens, and by Fall had increased my stock to ninety, beside having killed a dozen or so during the Summer. I have gone on since with proportional success, I have eggs in greater or less numbers, according to the season, all the year round. It is expensive work, I have found, to starve a hen; therefore they are fed plenty of corn, wheat screenings and whatever odds and ends are convenient, which they will eat, occasionally including bran mixed with warm water. They are exceedingly fond of fresh meat chopped fine, which also stimulates them to lay.

For persons living in the country and having no constant social occupation, it's possible for a

little fowl fancier-ing to become very interesting. It is really amusing to watch their endless maneuvers, and study their various characters.

Now a "green" person surveying a regiment of dame partlets and consequential gallants, would perceive no difference, save in shape and tints. As well go into a human gathering and conclude all there were mentally alike, simply because formed after the universal model. I do not believe there are many leading instincts in the human mind, which do not find their counterparts in these bipeds. In our own collection we have fowls of every shade of character—the weak minded hen, the well balanced biddy, and the regular virago. Hens there are whom one positively respects for all those qualities which demand the same sentiment in humanity. Others we equally despise—"shiftless" hens, hens who haven't the moral courage to sit the allotted three weeks, or if otherwise, to bring up a family with any success. A hen we respect, is generally designated "old biddy," while nothing is too contemptuous for the others. Among these latter we have one inveterate old cackler in half mourning, long known as "Widow Bedott," while a stately pullet who has reared numberless broods in entire respectability, answers to the call of "Mrs. Hannah Moore." LOUISE.

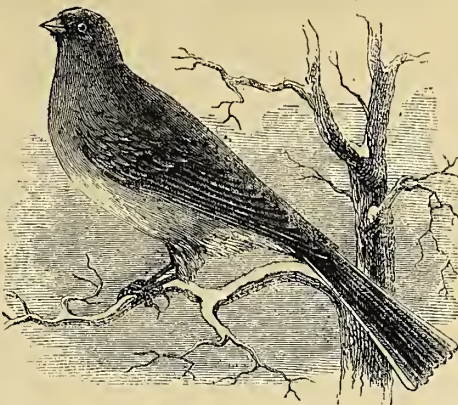
Butter too good for Market.

Epicerres sometimes display a rather surprising taste in their choice of cheese, preferring that which is spoiled for most palates, but it is something new to find that butter may be made too good to suit customers. On this side of the water, the dealers complain that enough of a prime article can with difficulty be found, and "ente" as Yankees are supposed to be, they have yet a lesson to learn in adulterating butter to fit it for a ready sale.

A dealer in England carried a lot of prime Welsh butter, noted for its superior excellence, to London market, and was told it would not suit. "And why not?" inquired he. "It is too good," replied the city merchant. "The Londoners or Cockneys have a peculiar taste for butter; they don't like a wholesome, honest article, but something that will cut like clay,—something that will spread stiffly over the bread, without permeating it, and therefore butter is prepared in a peculiar manner for London market. They mix it with oleaginous and farinaceous substances, and make it thick and hard."

We have sampled lots of butter that tasted as though prepared by some particular process by which indescribable flavors had been added, but the above described article has probably not yet reached this market. When it does come, may we not be there to taste.

EXTRAORDINARY YIELD OF WHEAT.—The American Farmer states that Col. N. Goldsborough, of Talbot Co., Md., had 27½ acres of wheat the past season, which yielded a trifle less than 55 bushels of 60 lbs. each, to the acre. Nine acres yielded 64½ bushels per acre. The field was dressed with unrotted farm-yard manure, marsh mud, woods mold, marl, and shell lime. The wheat was drilled in October 4th to 7th, one inch below the surface, at the rate of two bushels on one acre, and one bushel and sixty one hundredths upon the remainder. The variety was the smooth headed, white wheat, brought from North Carolina a few years ago.



Familiar and Useful Notes about Common Birds.....II.

THE COMMON SNOW BIRD.

Very closely allied to the sparrow, in size, form, and many of its habits, is the Snow Bird, the *Niphaea hyemalis* of ornithologists. It is so nearly related that it may as well be called one of the family. It is common to all the United States, east of the Rocky Mountains, but appears only at stated seasons, in the southern portions, while it is a constant resident of New-England and the northern Alleghanies. It is so familiar in its approaches to our houses, frequently alighting within a few feet of the child that gives it food, and is so well known, that a particular description seems to be unnecessary.

Like the goldfinch, described in last month's *American Agriculturist*, upon the approach of Winter they collect in flocks, and subsist upon substantially the same description of food. We do not quite agree with the usually reliable Audubon, that they will not suffer any other bird to keep them company, for we have often seen flocks in Winter accompanied by one or more snow lark-buntings, living together upon terms of the greatest apparent friendship. In the pursuit of food it is very industrious, and more accustomed to frequent our farm yards, than any other Winter bird. It avails itself of the labors of the domestic fowl, which it may often be seen following up, feeding upon the seeds which the fowl has scratched to the surface, and passed by as too small for its use. It is also said to follow the wild turkey, the squirrel, and the grouse, in their wanderings, for the same purpose. What we have said of the goldfinch, applies with equal force to the snow bird. Its entire subsistence in Winter is derived from the seeds of grasses or noxious weeds, which the farmer has forgotten, or has not found time to eradicate and destroy.

A singular effect is noticeable in the flight of the snow bird. Its outer tail feathers are white, and contrast strongly with the general dark aspect of the body. When they are spread in the rapid movement of flight, the bird appears to be nearly white. It possesses the singular peculiarity also, noted in the goldfinch, of uttering its note continuously, when on the wing.

It is probably true, that there have been vagabonds, who have actually slaughtered this little glory of the animal creation, for food; otherwise, the statement that they are delicious eating, could not have found its way into the books. We trust for the honor of the race, that in these days of refined humanity, no such savages exist. They should go out of fashion, with heathen and cannibals.

It was only during the last Summer that we became acquainted with the breeding places of this bird. Aware that in one locality it was

migratory, and that its breeding places were not far distant, probably, we had been for some years on the lookout for its nests. In the early part of last June, during a trip to Mount Mansfield, the highest peak of the Green Mountain range, we noticed many of these birds around the base of the mountain. Their numbers increased as we ascended, until on arriving at the top, we found them more numerous than any other species. There was scarcely a moment when several were not in view. They appeared to fraternize very amicably with the black cap warblers, which were also noticed in unusually large numbers. Our time on this occasion did not permit us to search for nests, but in the course of a visit to the same place a month later, the nests were found in abundance. The young birds were then nearly fledged. The nests were not unlike that of the Song Sparrow, formed of small sticks and lined with mosses and fine grasses. They were placed upon, or very near the ground, beneath the limbs of the black spruce, fir, and *Frazer pine*, near the top of the mountain at an elevation where these trees were much dwarfed. [Here, it may be said in passing, that Mount Mansfield is the proper locale of the *Frazer pine*. We found the cones in various stages of growth, and there is no more doubt about the recurved character of the bract (the characteristic of the species) than there is of the recurvature of the bill of the American avocets. Whoso doubteth the existence of this tree, or that it is found on Mount Mansfield, we will straightway put down by a host of witnesses, among them the veritable Tim Bunker, himself, who was our *compagnon du voyage* upon the first trip to which we have adverted, and who aided in planting some of them in our unpretending grounds, where they now flourish as witnesses for the truth, and mementoes of a glorious day upon that grand old mountain.]

But few additional particulars relating to the snow bird need be stated. The general color of its egg is a yellowish white, thickly covered with small dots of reddish brown, most numerous on the broadest parts, where, in some places they are confluent. It breeds in mountain districts generally, and the young come to maturity earlier the further south they are produced. It is a summer resident only, of the fur countries, and is found as far south as Texas, only in Winter. It is not found upon or west of the Rocky Mountains, where its place is supplied by a closely allied species of the *Niphaea*, called the Rocky mountain snow bird. We are not aware of any successful efforts that have been made to domesticate it, or induce it to breed in confinement. L. E. CHITTENDEN.

Honey from Pine and Oak Trees.

Mr. W. Shaw, Madison Co., O., writes to the *American Agriculturist* that in 1858 he found that late swarms of bees, such as are usually worthless, had filled their hives with a superior article of honey. Upon searching for the source whence they gathered it, he found the pine trees in the neighborhood literally covered with bees sipping a sweet substance like dew, which appeared to exude from the bark. He also noticed the present year, after the white clover had failed, and when buckwheat was in blossom, the bees left the buckwheat, and were found busily working upon the scrub-oaks, gathering an exudation that appeared upon a little ball at the base of the leaves. In both these instances the sweet liquid which attracted the bees, was the product of an insect, the Aphis, or plant louse, different

species of which infest almost every variety of tree and plant. They suck out the sap, and eliminate from it a sweet liquid, which is ejected from two minute vessels called honey tubes, for the nourishment of their young. Bees, ants, and other insects eat this "honey dew" greedily. A full description of these creatures was given in the April *Agriculturist*, page 103, vol. XIX.

The Senses of the Bee—Curious Structure of its Wings.

Two naturalists, J. Samuelson and Dr. Hicks, of England, who have been making microscopic investigations of the nature and habits of the bee, incline to the opinion that the antennæ or "feelers" of the insect are organs of hearing, and perhaps of smell, as well as of touch. There is no doubt bees possess these senses, though their locality is a matter requiring further investigation.

They report also that they have discovered at the roots of the bee's wings, vesicles with nerves attached, that may serve as organs of smell, which certainly is a curious place to look for a nose; but the wonders of insect life are not yet half revealed.

A beautiful contrivance attached to the wings is worthy of notice. It is necessary to the flight of the insect that it should present to the air as broad and unbroken a surface of wing as possible. To secure this, the front edge of the hinder wing is furnished with a row of exquisitely formed hooks, and on the opposite edge of the anterior wing is a rib or bar, to which the hooks may be attached at the pleasure of the insect; thus giving it the advantages of broad wings, and also enabling it to fold them compactly when not in use.

SAGACITY OF HUMBLE BEES.—A writer in a foreign journal communicates the fact, that during a season of scarcity of out-door flowers, the humble bees entered the green and hot-houses, in search of food. Coming upon flowers, the long tubes of which prevented their extracting the honey in the usual manner, they cut through the corolla, just above the honey, and thus secured the treasure. This looks like something more than instinct; it was an entirely new way of working, exactly fitted to the exotic plants upon which they had never before fed, and which presented new difficulties to tax their ingenuity.

For the American Agriculturist.

Too Poor to take the Paper.

"Will you lend me your *Agriculturist*," asked farmer B—, one of my neighbors, the other day. "Of course I will, but why don't you take the paper for yourself, and have the comfort of it? It only costs a dollar."

"Really I am too poor. It is a grand paper, and wife and the children all like to read it. Am sorry I can't afford it."

Now farmer B— has a hundred acres of land, and, though not the best manager in the world, he might take the paper a great deal better than not. He had just laid in his Winter stock of tobacco, and that cost five dollars; but he could not afford the paper. He had just been to the circus with his wife, and two oldest children, and that cost a dollar, to say nothing of the time lost; but he could not afford the paper. The week before, he went to the horse

race, and lost ten dollars on a bet, to say nothing of the loss of self respect in the gambling operation; but he could not afford the paper. He went to the general muster last month, and that cost him two dollars, beside his time. He loses a hundred dollars every year in manure, which the paper would show him how to save. But alas! poor man, he can not afford it.

CLOVERNOOK.

For the American Agriculturist.

"Can't do without the Paper,"

Said Mrs. Weatherby, as she laid down the November number of the *Agriculturist*, and looked across the table to her husband, who was elbow deep in his political paper, reading the election returns. "You don't think of stopping it do you, my dear?"

"So many papers, wife, the garret's full of them now. A man needs an independent fortune to supply all the wants. Must have a political paper, and a religious paper, and Susie must have her magazine with the fashion plates. Guess that's about enough."

"But you said when you were setting out the new grape vines from Dr. Grant's, this Fall, that you got hints enough on that subject alone from the *Agriculturist* to pay for it."

"Yes, I know, but there's so many things."

"Well if you can't pay for it, I can. The eggs, you know, have been more than doubled this year. Look at this account of eggs sold. Hints all came from the paper. There were twenty bushels of onions, where we did not get five last year. It was the wood ashes you know. Then we have got two cents more a pound for the butter, because it was worked dry and packed in ice. That idea came out of the paper. And there is a hundred more just as good, and I suppose they will keep coming. I can't do without it."

CLOVERNOOK.

How Shelter Saves Food;

Also: How warm houses and warm clothing save food—A few practical Hints from Science to be studied during these cold Days.

Can it be that this subject is fully understood? We have talked and written a good deal about it, and so have others, yet judging from what we see wherever we travel through the country, the mass of people must still be ignorant, or the general practice would be far different. We will flatter ourselves, however, that those whose practice is wrong, have not been readers of the *Agriculturist*. It is below the truth to say that a correct knowledge and practice in the matter of protecting and feeding stock, would, during the present Winter, save two million dollars worth of fodder in this country. The cold Winter is upon us, and the fodder that may be saved, is likely to be needed. Let us state as plainly as may be, a few elementary facts that all should understand. They are worth studying.

The food that is consumed by man and beast, goes first to supply the waste or wear of the body, and what is left is stored in the form of increase in flesh. All that can be saved from waste or wear, is clear gain, or profit, in the form of added flesh.

The body (of man or beast) constantly requires some nutriment from food, to take the place of the particles that are daily worn out by labor or exercise. The less the exercise, the less the food required for this purpose. The more quiet and unrestless an animal can be kept, the

less will be the food required to supply loss from wear of the muscles and other organs.

The greatest amount of waste in the body, however, is the consumption of food to keep up the natural heat. How is the body kept warm? Why, really, just as a house is kept warm, by the oxydization of carbonaceous materials, or in plainer words, by the burning up of materials, like wood and coal, which contain a large amount of an element called carbon or charcoal. Heat a piece of wood away from the free access of air, to drive off its water chiefly, and you have a bulk of charcoal left nearly equal in size to the original billet of wood. Heat hard coal, called "stone coal," in the same way, and you have a mass of coke left, which is like charcoal. Heat potatoes, turnips, corn, wheat, oats, hay, straw, bread, meat, or any other food, just as you heat wood in the coal pit, and you get in every case a mass of charcoal. Charred meats, bread toasted black, etc., are familiar examples, only that in these cases the heating is done in the open air, and a part of the charcoal is driven off or carried away by the air. We repeat then, that all kinds of animal and human food, are largely composed of carbon or charcoal. It does not appear in its black form, until the other materials are driven off by heat, but the carbon is none the less there because we do not see it with a black coat on. Our animals are eating large quantities of this carbon in their hay, grain, and roots, and we eat it in our bread, meats, and vegetables.

In the fire place and stove, the air (its oxygen) unites with the carbon of the wood or coal, forming a condensed heavy gas (carbonic acid) which goes up the chimney or stove pipe. This condensing of the air with the fuel (or carbon in it) gives out heat that was before latent or concealed, and our rooms are warmed.

In the bodies of men or animals, the fuel (food) is chopped up by the teeth, and by the gastric juice in the stomach, and the particles are carried all over the body by the blood. We take in air through the mouth, just as the stove takes it in through its draft. The air goes into the lungs, where it mixes with the blood, and is carried all over the body. When a particle of this air meets a particle of food, it unites with it—they burn, just as the food would burn when the air came in contact with it in the stove. The result is, a little heat is given out. The myriads of food and air particles constantly meeting within the body together, produce heat enough to make up the waste heat constantly escaping from the surface.* In cold weather more heat is carried off from the body, and we, and our animals, must either have more fire (more food and more air) to supply the greater waste of heat, or we must put on more clothing, or stay in warmer buildings. (The carbonic acid, which in the stove is carried up the pipe, is in the body thrown into the lungs and out into the air. A large number of persons breathing in a close room spoil the air the same as if a stove pipe opened into it.)

Practical Deductions.—The above explanations are of important application. To keep a house warm, we must either make the outer walls so close or non-conducting as to prevent the escape

*We understand the two theories—one that the food is all oxygenized in the lungs and the heat carried through the body by the blood; the other, that the oxygen is carried into the blood and the food oxygenized at different points. Without designing to favor either of these theories, we have used the latter for illustration, as for our purpose either of them amounts to the same thing practically.]

of heat, or we must burn more fuel to get heat to supply the waste. To keep our bodies warm, we must either put on warmer non-conducting clothing, to retain the heat of the system, or we must consume and digest more food (fuel) and breathe more air into the blood, to produce more internal heat to supply the waste.

If a horse is covered with a warm blanket to prevent the heat cseaping from the surface, he will require less food to keep up the supply within, than if left uncovered in the cold air. If he is put in a warm stable he will need to eat much less food than if in an open stable, or in one where are open cracks, and drafts of cold air through doors, open spaces in the floors, partitions, and ceilings. Stop up the cracks, and close up the needless openings, and you will find your money in it when you have extra hay and oats to sell or buy towards Spring.

Cattle, sheep, and other animals, left out in the cold, *must* have much more food (fuel) than if kept in warm close stables. They will eat less on the lee side of a building or shed, than if exposed to currents of air that carry off the heat of the body rapidly. *The less the food required by any animal to keep up the internal warmth, the more will there be stowed away in the form of increased fat and flesh, which is so much profit.* Sheep kept at a haystack in a bleak field, will eat more (at the cost of the owner) but they will not grow more. The rapid internal fire required to sustain a life heat, weakens the system, as is too frequently shown by running noses, and weakened bodies, in or before Spring.

Hogs kept in a warm pen with a good bed of straw, instead of in a cold pen, will use up less food for fuel, and store away much more fat, from the same number of bushels of corn. In one case they may be kept at a loss, and in the other pay a fair profit. The same reasoning applies to all animals—the human animal not excepted. Give all animals a warm habitation, or shield them from cold, and you will save food that would otherwise be required to keep up the animal heat. On the understanding and application of so simple a principle, often depends the success or failure of many—of most men.

Tim Bunker on Cattle Disease.

"Guess she's got the cattle disease, by the looks on her," said Uncle Jotham Sparrowgrass, as he looked into Jake Frink's yard last April, at one of the sorriest cows ever seen in Hookertown. She was down and unable to get up, had lost her calf, and was very much down in the mouth.

"What kind of disease is that?" asked Jake, solemnly, evidently prepared to hear the worst.

"Cattle disease! you fool," exclaimed Ben Jones. "She is one of the cattle, and, of course, if anything ails her, she's got the cattle disease."

"I rather think it's the crow ail," suggested George Washington Tucker, as he joined his neighbors in the cow yard, to sympathize with Jake in his affliction. "At any rate, the crows will have a meeting on her case fore long, see if they don't."

"Dreadful cavin in for'ard of the hips," remarked Seth Twigg, as he scratched a Lucifer on the wall, and lit his second pipe. "I shouldn't wonder if it was the *cove*, a disease they've had in Hookertown this twenty year."

"It looks to me like the cattle disease they are having up in Massachusetts. The eyes are glassy, the hair stands on end, and the breathing is fast," remarked Dea. Smith.

"They call it the pleuro-pneumonia, I believe,"

added Mr. Spooner, who reads agricultural papers as well as ficology.

"Has it killed many cattle?" asked Jake with a troubled countenance.

"It has taken off a good many hundreds, and is spreading into this State, said the pastor.

"Then she's got it," said Jake, "and I shall lose her in spite of all doctorin'. Salt wont save her."

"The crows will, though," said Wash. Tucker, who clung to the crow ail, as the only theory that cleared up the mysteries of her case.

"I guess she's got the slink-fever," suggested Kier Frink, who had stopped his coal cart, to see what the trouble was. "They have had it a good deal on father's farm ever since I can remember. Cows lose their calves, grow thin with a cough, and die."

"Now jest tell us, neighbor Frink, what that are cow has been fed on, for I don't want to feed mine the same way," said Seth Twigg.

"Well, she haint been fed high at all. She aint pizened with oil meal, or any of them feedin' stuffs they bring up from the city. You see, I'm rather short on't for fodder and stable room, and I kept the ole cow on butts and swale hay all the fore part of Winter, and foddered her at the stack. She'd allers wintered out well enuf, and I thought she was so tuff, she wouldn't mind it. I put her on to oat straw about the middle of the Winter, and have kept her in the yard ever since, but nussin' don't seem to agree with the ole critter. She allers was kontrary, blame her. Guess she'll die jest eout of spite."

"Rather high feed," suggested Twigg, looking across that pile of skin and bones at me, as if I was authority in the matter.

"Now," said I, "the difficulty with this cow is starvation and exposure. If I was here sitting upon a *crowner's* quest, I should find under oath, that this animal died of hunger and cruelty, administered by Jacob Frink, of Hookertown."

This conversation of my neighbors last Spring, shows the secret of a great deal of the disease among cattle in all the northern states. I have no doubt that they had something a little extra up in Massachusetts, perhaps an imported disease, that was wisely checked by stringent legislation in that and other states. The stock interest is so great in this country, that we can not well be too vigilant in guarding it. But I think starvation and exposure kill more cattle every year, than the lung murrain did. This disease is around in almost every neighborhood, and thousands are slain by it, and other thousands are so damaged, that they are of little or no profit to their owners. It is not thought contagious, and yet it is wonderful, how it goes through a whole herd, and spreads from farm to farm. Yet nobody is alarmed, because he is familiar with the disease, and knows the remedy is of easy application.

Now, Mr. Editor, I want to have my say on this subject, and you mustn't put the stopper on till I have it out. You see, now is the time to prevent this disease. If you neglect cattle till they get down in the yard, like Jake Frink's cow, it is too late, or if it isn't too late, it will cost all they are worth to get them up into good flesh again. You see folks are greatly mistaken about what constitutes the value of an ox or cow. I take it, it isn't the breath of life in the carcass that makes a cow or ox worth having. But this seems to be the popular notion, that a cow is a cow, whether she have five hundred pounds of good wholesome flesh between her skin and bones, or the skin and bones have

come together pretty much like a collapsed steam boiler. Men calling themselves farmers, and living in a farming community like Hookertown, seem to think that a poor half-starved cow in the Spring is in just as good condition to give milk, and make butter and cheese, as one well fed. They think all the hay and meal they can cheat their cattle out of in the Winter, is so much clear gain. They keep animals out of doors, at the stack-yard, through all this cold stormy weather, that are expected to bring calves next April. They lie upon the frozen earth, and often upon the snow, with the thermometer at zero or below. They are fed upon corn stalks, and often upon poor hay, without meal or roots. Now I am not particularly savage in my disposition, but I should like to have these improvident stock owners spend just one night, at the stack yard, with their poor shivering cattle. I rather guess they would build barns or sheds, and make them comfortable.

A cow kept in this way, comes out in the Spring in poor flesh, too weak to bear a good calf, or to make good veal, if the calf is doomed for the butcher. Half the Summer is spent in recovering the flesh she has lost during Winter. A few years of such treatment weakens her vital force so that she is liable to die a hardening, long before she becomes an old cow. Is it any wonder that cattle become diseased under such treatment, that the ribs stick out, and the hair sticks up, and the crows scent their prey? We have got laws that fine men heavily for abusing dumb animals with the whip. We ought to have others that will prevent them from torturing their animals with frost and hunger.

My remedy for cattle disease is first, good warm stables. They can be made tight, and at the same time be well ventilated, so that the thermometer will not sink much below the freezing point. Without good stables, no amount of feeding can keep the animal comfortable, or make it profitable to the owner.

And secondly, good feed, and plenty of it, good timothy or clover hay well cured—corn meal, oat meal, linseed oil cake meal, or cotton seed meal, with the roots—carrots, beets, and turnips—are articles that should enter into the bill of fare. As a rule, the more a cow eats, the more profitable she is to her owner. You might as well think of having milk when you don't put corn into the hopper, as milk and butter without plenty of fodder. There is nothing like having a good lot of flesh and fat to start upon in the Spring, if you want to make a good dairy, and keep your cattle clear of disease.

Yours to command,

TIMOTHY BUNKER ESQ.

Hookertown, Dec., 1860.

Rats Afraid of Powder.

H. H. Ballard, Owen Co., Ky., writes to the *American Agriculturist* that with 4 lb. of gunpowder he can keep every rat from his premises for a year. "The powder is not used to drive a bullet or shot through the animals, but is simply burned in small quantities, say a teaspoonful in a place, along their usual paths, and at the holes where they come out, with proper precautions to prevent accidents from fire." He says he has proved its efficacy by repeated trials. "The rat has a keen sense of smell, and if he has sense enough to know that he is not wanted, when he perceives the odor of the burnt powder, the remedy will be of great value. Let our readers experiment and report, if the value of this method can be ratified."



AMERICAN FARM SCENES—WINTER—FROM AN ORIGINAL SKETCH BY F. O. C. DARLEY.
(Engraved for the American Agriculturist.)

It is with great pleasure that we present, herewith, one of four original "Farm Scenes," by our distinguished countryman, F. O. C. Darley, who ranks foremost among American Artists. The other three designs, representing *Spring*, *Summer*, and *Autumn*, will appear in the *American Agriculturist* for April, July, and October.* Our sketches, though necessarily on a reduced scale, give a very good idea of the spirit of the originals, which certainly excel anything of the kind hitherto produced in this country. The designs are truthful, as they well may be, for Mr. Darley, though devoted to his favorite art, is himself a New-Jersey farmer, and a close observer of farm life. The picture is worthy of study, and it scarce needs a line to direct attention to the natural position of the cows, the relish with which they lay hold of the corn-stalks, with appetite sharpened by cold; the eager, expectant look of the horse; the shivering shrug of the shoulders, by the boy; the "go-a-long" look of the man carrying the stalks; the peering of the cat; the fowl, snowbird, etc.

It is a matter of regret, that the picture is a truthful sketch of so many farm yards in this country. Winter, at the best, is a trying time for animals, cut off as they are from their natural food, and confined to dry hay, straw, stalks, or grain. The dictates of humanity alone should

be sufficient to impel every owner of stock to afford them warm shelter at least. But it is not alone for the animals' sake, that the importance of their comfort is so often urged in these columns. Who does not know that comfort promotes thrift? No man ever grew fat without being at ease, in his physical condition. Neither will an animal take on flesh, while he is worried by want of what his nature craves. The philosophy of the saving of food, by keeping animals warm, is fully considered in another article in the present number; but it is apparent upon the least reflection, that the *feeling of comfort*, has much to do with promoting an animal's thrift, in addition to the physiological reasons previously alluded to. The condition of the nervous as well as of the muscular system, affects the digestion and assimilation of food; and any one who has experienced the thorough discomfort of insufficient warmth, knows that every organ complains of the neglect. Let those who would rejoice in the well rounded frames and sleek sides of their cattle, see that they live at their ease, as far as is possible in this inclement season. If our sketch leads to reflection and better practice, it will be not only effective as an esthetic work, but point a moral as well.

How to Throw an Ox.

L. Hendrick, in the *Genesee Farmer*, thus describes a simple method practiced by him on one occasion when he wished to extract hedgehog quills from the animal's hind foot: The ox was first placed on smooth ground, and

the left, or near side, fore foot tied fast to the leg above the knee. Then a rope was tied around the ancle of both the off side feet, and two men standing on the near side, pulled gently on these ropes, at the same time crowding against his side. A man was stationed at the off side of the animal's neck, to attend to his head while coming down. The ox seeming to fear a fall, readily dropped on his knees and down upon his side. The ropes were then held securely, and the quills easily extracted with a bullet-mold for nippers.

Why do Animals need Salt?

Prof. Jas. E. Johnston, of Scotland, says: "Upwards of half the saline matter of the blood (57 per cent.) consists of common salt; and as this is partly discharged every day through the skin and the kidneys, the necessity of continued supplies of it to the healthy body becomes sufficiently obvious. The bile also contains soda (one of the ingredients of salt,) as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt therefore, and neither will the bile be able properly to assist digestion, nor the cartilages to be built up again as fast as they naturally waste."

It is better to place salt where stock can have free access to it, than to give it occasionally in large quantities. They will help themselves to what they need if allowed to do so at pleasure; otherwise, when they become "salt hungry" they may take more than is wholesome.

*N. B.—These copies are reduced for engraving, from the original sketches, by special permission from the owner of the copy-right, Mr. M. Knödler, 772 Broadway, of this City, who has published large sized, and very beautiful lithographs, 15x19 inches. These will make an appropriate ornament for every dwelling in the country. The price of the four is only \$5. They can be obtained of Mr. Knödler, as above, or we will procure copies and forward, when desired.

Jonathan on Pure Water for Stock.

To the Editor of the American Agriculturist.

I was much pleased with Tim Bunker's article on bad water in the last number of your paper. It was rather calculated to turn the stomach of a decent man to find what some people are drinking, but it will do good if it turns their thoughts in that direction, and leads to a doctoring of the soil surrounding their wells. It will save a good deal of doctoring of themselves, for nature punishes the stomach pretty severely for want of cleanliness.

I hope, however, my brother farmers will think a little further of this matter, and carry it out in their care of stock. I've seen cattle obliged to get their drink for a whole season from ponds and swamp holes that a man couldn't come near without turning up his nose—in fact I sometimes fancied that the bulls did make up wry faces at it; but they must drink that or nothing, and so they sucked down the nauseous decoction of rotting vegetables, surface drainage, droppings from the herd, and living animalcules which abound in such places. What kind of milk will such stuff produce? I don't believe any animal's stomach is a good enough laboratory to compound wholesome meat with only foul water to soak the food in; for it was not made for such a purpose. If any one doubts it, let him offer a thirsty ox his choice between clear water and swamp drainings, and the sensible brute will give him a practical lesson in physiology.

I notice in the English papers that the large milk dairymen are using filters to cleanse all the water given to their cows, and they say the better health of the animals, and the improved quality of the milk, more than pays the expense. I know that there is less trouble from foul water at this season, than in Summer, but how many yards there are, where the whole stock is watered from a single small trough, into which water is poured or pumped from a well. Every horse or ox washes his nose and mouth in it, the hens roost upon the edge and leave their filth, and this goes on day after day, and no man would think it clean enough for his own use. Then it is not clean enough for his animals, and he should at once provide better for them, both for their comfort and his own profit. If a running stream from a spring can not be had, let the trough be well cleansed every day. Brutes prefer cleanliness; permit them to indulge so good a taste.

JONATHAN.

Keep up the Farmers' Club.

You have such a club, of course, in your neighborhood. You can't afford to sleep away the Winter in mental indolence, regardless of the progress others are making, and which you might make in your calling. You have too much benevolence, also, to be willing to hoard up whatever useful things you have learned from reading and observation: you desire others to share these advantages with you. And then, you are socially inclined, perhaps, and wish to freshen up your acquaintance with gentlemen in all the region around. It is a very little matter, to be sure, to meet occasionally with friends, shake hands, smile, and say a few common-place words: yes, a little thing in itself, but it is a very good thing, and it makes both parties happier and better. By reason of such a little thing, the next day's work will be done easier, next day's burdens will be borne more cheerfully, next day's skies will be brighter.

God evidently designs that our happiness shall be fed from numerous small streams, not from a few large ones. Let us keep all the gates open, and open new ones beside.

Well, we are glad you have a Club established. If you have a Constitution and a few By-Laws to keep things in order, the next most important thing is regular and punctual attendance at the meetings. The interest of the Club will flag at once, if the members grow remiss here. It will not answer to leave the interest to depend on the fidelity of a few members: each man should stand in his lot, and never be absent, except from absolute necessity.

A subject should be chosen at one meeting for discussion at the next, and one or two persons appointed to open the discussion. All the members should read and think upon the subject previous to the debate, so as to have something to say, and so as to enjoy the meeting all the more. If the one appointed to open the discussion feels unable to speak extemporaneously, let him write out his thoughts, in his own way, and read them. But it is better, we think, to throw off all restraint and embarrassment, to make no attempt at fine speaking, but to express one's thoughts in a dignified conversational way. And let this be the character of the whole meeting: freedom of speech, governed by the laws of propriety and courtesy.

The most interesting part of the Club we attend, is the time (half an hour) given at the opening of the meeting for questions and answers on all sorts of subjects. The President, sitting in his chair, is catechised about poultry, pigs, potatoes, wheat, and what not. When he gets tired of responding, or wishes to call out others well qualified, he requests A., B., and C., to answer the questions. Thus, every body has a chance to state his case, and almost every voice is heard in question or reply.

Jack Frost in the Cellar!

Look out for the burglar! He will do no harm to silver or gold, but he will heave your house from its foundations, crack your walls, throw windows and doors out of gear, and do sad work with the apples, winter pears, potatoes, and other good things laid up for the season's use. So, guard against him betimes.

If your cellar walls are old and poor, it may be well to bank them up with tan-bark or sawdust, eighteen inches or two feet thick. Don't use manure from the stables, as is sometimes done—a most untidy thing! Good soil is snitable, if sawdust or bark can not be had. If there are cracks between the top of your cellar wall and the sills, get a mason to come and point them up on the inside with mortar: or, what is better, lay a course of bricks, well bedded in mortar, over against the cracks. This will keep out Jack and the rats and mice.

If frost gets in at the windows, put in double sash. Instead of using two sets of windows, you may have double panes of glass, an eighth of an inch apart, set in each window-frame. By either method you get a body of confined air between the cellar and the frosty air without; and this is as good a protection as a wall of brick or stone. If you can't go to this expense, then lay a bundle or two of straw against your cellar windows, on the outside, confining them there by boards or stakes. This will darken your cellar, but darkness is better than frost.

DOGS ARE COSTLY.—According to the Ohio Cultivator 41,979 sheep were killed, and 27,750

were injured by dogs in Ohio, during the year 1859. The damage amounted to \$101,895. How many dogs will it take to benefit the State to the amount of \$101,895?

What's the Use of Snow?

So inquires the Broadway exquisite, as, one of these blustering mornings, he picks his way along the street in patent leathers. What in the world is it good for? And such inquiries are made, now and then, by almost everybody. There are many pleasant things connected with the revolution of the seasons; and yet, when rude Winter's turn comes, we can hardly meet it without feelings of regret. The invalid and the aged, how the cold pinches them! The tourist finds little pleasure amid fine scenery, if meanwhile he is frost-bitten. The landscape-painter must fold up his sketches with benumbed fingers, and hurry to his warm studio in town; the botanist—where are the flowers he loved so well?—the geologist, entomologist, and indeed the student in almost every department of natural science finds his sphere of observation reduced to narrow bounds; the gardener must stop his pleasant labors, and the farmer can no longer sow and reap, and gather into barns, but must witness for many months an exhausting drain upon his stores without any replenishing streams.

Now for the bright side of the picture, if we can find it. The old proverb that "snow is the poor man's manure," has, perhaps, a grain of truth in it. Some chemists tell us that analysis reveals a larger percentage of ammonia in snow than in rain. One says that "water acquires nitrous salts in freezing." However that may be, this at least is true, that snow is a powerful absorbent, purifying the air and returning those impurities to the soil.

Melt in a clean vessel a mass of snow which has lain a short time on the ground, and the taste will detect foreign substances in the water. This will be most manifest in the neighborhood of large towns. The harshness and dryness produced in the mouth by drinking snow-water, and the unpleasant effects on the skin by washing in it, are ascribed to the impurities it contains. The disease called *goitre*, causing monstrous swelling of the neck, which prevails in Alpine regions, is also attributed by some to the use of snow water. The absorbent power of snow has been illustrated thus: "Take a lump of snow (crust answers well,) of three or four inches in length, and hold it in the flame of a lamp: not a drop of water will fall from the snow, but the water as fast as formed will be drawn up into the snow by capillary attraction. It is by virtue of this power that it purifies the atmosphere by absorbing and retaining its noxious and noisome gases and odors."

Furthermore; it prevents exhalations from the earth, and having absorbed them, returns their fertilizing properties to the soil. Hence, marshes and stagnant pools become inodorous in Winter, and the unwholesome effluvia of vegetable matter everywhere decaying while unfrozen, is retained, and with the melting of the snow in Spring, is taken up by the soil. Now, if no more than this can be made out for "the poor man's manure," it is yet better than some of the patent fertilizers of our day.

Snow helps the springs and mill-streams in Winter. Were the ground naked from Fall to Spring, and frozen meanwhile several feet deep, the springs would give out, and water-wheels of all sorts would have to stand still. As it is.

however, the snow prevents the frost from penetrating to a great depth—especially in the wooded hills, which are the fountain-heads of springs and streams—and by gradual melting keeps up a supply of water for man and beast.

Snow is an excellent protector of tender vegetation. Even in northern latitudes, there is a multitude of half-tender indigenous plants which require more or less covering in Winter. Nature provides for them most wisely. She hangs over them the branches of neighboring trees and bushes, gathers about their roots a many-folded blanket of dry leaves, and, last of all, spreads over them a fleecy mantle of snow. With this covering, they pass through the severest Winter safely; while, if they were transplanted to exposed situations, they would die at once. But besides, our gardens and fields are stocked with plants and grains which are the natives of warmer climates, and need protection still more. Sweep off the snow from our wheat fields and meadows, and at least a portion of the crop would be winter-killed. Some of the choicest herbaceous plants in our gardens, brought from milder regions, will pass unhurt through our severest Winters, if only covered with snow.

So also of many tender shrubs. With their branches fastened to the ground so as to be covered by snow, they hibernate in Canada about as well as at the tropics. We have seen the English Yew, several feet high, come out in Spring well browned above the snow-line, while all below was as green as emerald. The Japan Quince, by no means a tender shrub, the Deutzias, many of the Spireas, Forsythia viridissima, the Scarlet-flowering Currants, etc., frequently lose their flower buds, if not their branches above the snow, while all underneath is unharmed. The buds of peach-trees are often killed in severe Winters, but if a few branches happen to get bent under the snow, they produce a splendid show of fruit. Scientific travelers in Siberia have recorded instances in which, with the temperature of the air over the snow at 72° below zero, that underneath was 29° above zero, showing a difference of 100°. Dr. Kane, in his "Arctic Expedition," mentions finding under the snow, at latitude 78°, "the andromeda in full flower, and saxifrages and cories green under the dried tufts of last year." * * "Here, too, were the cilene and ecrathrium, as well as the characteristic flower-growths of later Summer. The poppy and sorrel, were already recognizable." * * "Few of us at home," he continues, "can realize the protecting value of this warm coverlet of snow. No eider-down in the cradle of an infant is tucked in more kindly than the sleeping dress of Winter about this feeble flower-life."

When the snow falls early in Winter and remains until Spring, the ground is seldom frozen at all. And if it becomes frozen a few inches deep before the snow falls, the heat of the sub-soil thaws out the frost above it, and the superincumbent snow prevents another freezing, so that in Spring the ground is soft and ready for the plow and spade many days sooner than if it had remained exposed to the full force of Winter.

The aid which the snow renders the farmer in clearing up swamps, and getting out muck in Winter; and in hauling lumber and wood to market; the peculiar brilliancy of the snowy landscape lighted up by the sun; the sport of sliding down hill for the boys, and of sleigh-riding for children of larger growth, are considerations not to be omitted in numbering up the uses of snow. But of these and other things we have not time or space now to speak.

A Pomological Puzzle.



There was recently exhibited in a show window in this City a narrow necked bottle containing a large sized pear, a drawing of which is here given. It attracted much attention and 'how it was got in there' puzzled most spectators as much as the apple dumpling did King George—the monarch is said to have thought the presence of the apple in the enclosing crust, nothing less than witch-work. The explanation of the pear "puzzle" is quite easy. After the fruit had fairly set, the bottle was slipped over the pear, and properly secured to the branches, so that the wind should not disturb the specimen. The glass covering rather stimulated than retarded the growth, and ultimately the pear nearly filled the bottle.

Other fruits as apples, grapes, etc., also vegetables, melons, and whatever may please the fancy, can be treated in like manner. Where a grape vine is trained upon a tree, a bunch of grapes and a pear or other fruit could thus be bottled together.

After the fruit is ripe and separated from the branch, it may be preserved for years by filling the bottle with diluted alcohol, or even common whiskey. The process is of no great practical value, but will furnish a pleasing ornamental curiosity.

Items from the Holy Land.

In a very excellent book lately published, entitled "The Land of the Book," we find several things of interest to agriculturists. We notice, for example, (vol. I, p. 524) that the mildew now prevails in that Land, which is the birth-place of the olive and the vine. The author says: "I have heard it said that the blight, which has nearly destroyed the grapes all over the country for the last few years, and which has ruined the vineyards through the south of Europe, has also attacked the olives this year * * * The olive dries up without developing, and falls off; but there is none of that whitish mould, nor that offensive smell of corruption which the grape-blight occasions. The vineyards in this region are utterly ruined, and the people have cut them down and sowed the land with grain. This great calamity acts very mysteriously. The vines blossom and the young grapes set as usual, but, soon after, a silvery gray mould spreads over them, and as they enlarge, they corrupt, and with a very peculiar and offensive odor. There is this, also, strange about it: one year it attacks the vines raised on poles and running on trees, while those lying on the ground escape; the next year it is the reverse. Some vineyards exposed to the winds are wholly destroyed; others sheltered from them are uninjured. And again this is reversed. Hitherto, no explanation has appeared to account for the calamity itself or for its eccentricities."

Here is another item from the 2d vol. p. 292. The writer is traveling near Mt. Carmel, and says: The pastures on either side are extremely rich, and when I passed along this river bank in February, it was all glowing and blushing with an infinite number and variety of flowers, send-

ing up incense to the skies, and offering their honeyed cups to millions of bees. I saw here a flower altogether new to me: the stem resembled a strong, rank pea but the flowers hung in pendant clusters like hops. The upper part was a light bronze color dashed with purple, the rest pure white. I could get no name for it."

A most remarkable flower, we should say, judging from the description; and we should advise our enterprising nurserymen to send for it through their foreign agents. We put down our name in advance, for one specimen.

A Dish of Apples—Good Sorts.

Yes, Betsey, bring up a dish of good apples: some neighbors have happened in, this evening, and what can be better to set before them.

The man was right in what he said to Betsey; nothing is better to an unperverted taste than a tender, juicy, mild and spicy apple. It refreshes one's spirits, gratifies the appetite, quenches thirst, and furnishes healthy food. There was something more than a joke in the advice of Dr. Johnson to one of his friends: "If possible," said he, "have a good orchard. I know a clergyman of small income, who brought up a family very respectably, which he chiefly fed on apple-dumplings!" Few things will do more to promote the health of a family, than to furnish them daily and for the year through, with a plenty of good ripe apples. They may be eaten both cooked and uncooked. They promote good digestion, and carry off many humors which would otherwise accumulate in the system, to its serious injury. Was it not some happy experience of the healthfulness of apples, that led certain of the ancients to imagine that this fruit possessed the power of conferring immortality, and "was watched over by the goddess Idreia, and kept for the special dessert of the gods who felt themselves growing old?" But we have no special faith in heathen fables. We prefer to dwell upon visions of baked apples, fried apples, apple-butter, apple-pie, apple-sauce, apple-tarts, and apple-jelly.

The value of fruit as food for stock, is too well known to need enlarging upon. Here is a single sentence from the Transactions of the N. Y. State Agricultural Society, which covers nearly the whole ground: "Aside from its edible uses to man, the apple is an important and economical food for most kinds of farm stock. Milch cows thrive upon it, when fed in moderate quantities, and it adds to the quantity and quality of their milk. It is also an excellent food in making beef. Horses eat it readily: for them it is a succulent and healthy food. Sheep, swine, and geese, will fatten altogether on good apples; and for all kinds of poultry they are nutritious food."

Not the least important consideration is the value of the apple as a market fruit. It usually commands a ready sale, and is more easily raised than perhaps any other crop. A farmer can not make a wiser investment than to devote a portion of his land to an orchard. Let him choose the most suitable soil and exposure, and select the best varieties. Good apples cost no more to raise, than poor worthless wildings.

To aid the inexperienced in making up a list of unimpeachably good varieties, we insert an assortment of those which are admitted by general consent to rank among the very best in quality; we give ten sorts for each season:

SUMMER APPLES.

Red Astrachan, Sweet Bough, Early Harvest,

Early Strawberry, Early Joe, William's Favorite, American Summer Pearmain, Bohamian, Golden Sweeting, Sops of Wine.

FALL APPLES.

Autumn Strawberry, Fall Pippin, Gravenstein, Porter, Smoke House, Jersey Sweeting, President, Hawley, Lowell, Rambo.

WINTER APPLES.

Baldwin, Hubbardston Nonsuch, Northern Spy, Newtown Pippin, Peck's Pleasant, Rhode Island Greening, Esopus Spitzenberg, Dominic, King, Norton's Melon, Danver's Winter Sweet, Red Canada, Roxbury Russet, Swaar, Wagener.

How to Judge of Fruits.

It is quite amusing to observe the different estimates formed of newly introduced varieties of fruit. A man raises a seedling pear, which, in his own partial judgment, seems very good. He shows it confidentially to a friend or two, who, in the kindness of their hearts, pronounce it first rate, delicious! The man's eyes open wide; he imagines he has produced a new Seckel or Virgalieu; a fortune may be made out of its sale; he names it "Excelsior," "Young America," or something else more sounding and taking. Then he propagates it largely and introduces it to the market. What is his surprise to find that his bantling produces no great sensation; the public call it second-rate, inferior to many others now in cultivation, and not worthy of general notice. The man feels hurt—hurt in his feelings and in that tenderer place, the pocket. He insists upon it that the fruit committees are prejudiced, are hostile, and determined to ruin him. It takes a long time for him to find out that he has been deluded by his own feelings and self-interest. Such cases are quite common.

Mistakes arise also from the time and circumstances in which an opinion is formed. A person may be called upon to test the quality of a new fruit, when his appetite has just been sated and cloyed by eating many other fine sorts; of course, he would not be likely to form a very favorable estimate, nor one to be relied on.

Or the trial may be made when he is exceeding fruit hungry: he has been traveling all day, has had little to eat or drink, and is feverish with heat and ravenous for food. Now bring on your new candidate for pomological honors—be it apple, pear, grape, or anything in the fruit line—and forthwith, it is pronounced "fine," "super-excellent," "food fit for the gods!" What do you think of *that* judgment? Not much we hope.

We have heard of a wild grape being found many years ago, by a party of explorers in the Rocky Mountains, which they esteemed so wondrous good—better than the Hamburgs or Muscadines—that they afterward procured a root, carried it many weary miles by hand, and brought it to an eastern city for cultivation. Oh, how disappointed were they to find on its coming into bearing again, that it was no better than the commonest wild grapes of New-England woods! Ah, if they had brought home also their sharp appetites from the Rocky Mountains, the grape would also have maintained its original excellence.

We need not enumerate other circumstances that come in to mar one's judgment of new fruits. It is plain, however, that the owner of a seedling is apt to be a poor judge of it, and that time and circumstances must also be taken into the account. One trial is not enough, nor is one year's

trial. Some standard fruit should always be at hand with which to compare the new-comer. And with the best of pains, it will take time and necessitate some blunders, perhaps, before the new fruit has its true and final place assigned it.

The Newer Grapes.

Our friends, the new natives, could hardly have received a stronger impulse than they got from the early frosts of last Autumn. The early ripening Delaware, Concord, Hartford Prolific, and Logan, had ripened off their crops finely by the first week in October. But the laggard Isabellas and Catawbas colored very slowly, and, north of Newburg at least, were only half-ripe when the heavy frosts of mid-October came, and froze them for two successive nights as hard as bullets. Alas! of what use were they then! They were so sour and bitter as to be unfit for eating: and were consequently unsuitable for wine making, or for jellies, or sauce. Some persons tried them for pies, but they were eaten only from a sense of duty, nobody at the table asking for a second piece!

We happen to know several persons who have vowed destruction on their late ripening grapes, and have determined to fill their places with the earlier sorts. Not wisely so, we think; for, with proper choice of aspect and soil, and with suitable pruning, the Isabella, at least, can be ripened, three years out of four, as far north as Albany; and when it *does* mature, a noble grape it is. A daily paper before us mentions that even the Concord was caught ungathered, last Fall, in the vineyard of Mr. Bull, its originator, and some forty or fifty bushels frozen and spoiled. Shall we therefore throw away our Concord? Prove all things, and hold fast to that which is good.

Frozen Plants.

If this Winter is like all that have preceded it in our day, many plants and vegetables will be frozen. Some still, clear night, Jack Frost will steal into the cellar, and turn the apples and potatoes into so many stones. He will also find his way into the lady's parlor or chamber, where she keeps her house-plants, and, ah me! next morning, her sweet pets will be as rigid as the artificial flowers on her bonnet. The bundle of trees which I ordered so late, from — & Co.'s nursery, will be detained on the way, and I shall receive them all frozen together, as hard as logs.

Now, what shall be done in these several cases? Shall the potatoes and apples be drenched with warm water to take out the frost? No: cover them with old mats or carpets, and let them thaw out as gradually as possible. And the dear flowers? Don't hurry them into a warm room to thaw them by the side of a stove, as you would a frost-bitten chicken. Let them remain where they were frozen; close the window shutters or drop the curtains, so as to make the room quite dark, then sprinkle the plants with cold water direct from the cistern, and wait for the result. Do not allow the room to become warmer than 35° for twenty four hours. If a few drops of spirits of camphor are thrown into the dish of water before sprinkling, it will be all the better. We treated a dozen plants in this way last Winter, and the frost was so severe that the water froze in drops on the leaves as we sprinkled them; but by keeping the room dark and cool an entire day, nearly every plant

came out unharmed. We remember, in particular, a fuchsia which was in full flower at the time of the freezing; a week after it was still covered with blooms. A neighboring gardener had the misfortune, also, to have a large lot of geraniums frozen. In his anxiety, he hurried a part into a warm green-house, and a part into a cellar. The first were nearly all ruined, the latter were all saved.

The package of frozen trees must be taken to the garden, a trench dug large and deep enough to receive them root and branch, and then they should be covered with soil. The gradual thawing in the dark will undoubtedly save them.

Look to Your Dahlias, etc.

Some persons pack away their dahlias in the Fall, in sand or dry earth. With such treatment, they generally go through the Winter very well. Others put them away on shelves in their cellars, or pack them among their potatoes. Managed in this latter way, they sometimes keep well; but they are exposed to injury from mold, if the cellar be damp, and to shriveling if it be very dry, and this is often the case where the house is warmed by a furnace. We have often found that by being packed among other vegetables, they remain just moist enough and just dry enough.

However they may be stored, it is well to examine the tubers occasionally, to see how they are getting on. If they are suffering from either cause named above, let them be shifted into different quarters before they are spoiled. They are worth this little trouble.

And we will just add that Mexican Lilies, and gladioli should have corresponding treatment. Some persons take up their Japan Lilies, and pot them for the Winter. With suitable protection out of doors, this is unnecessary; but where it is done, they should have a little water occasionally, between this time and April. Give them just enough to keep them from drying up in their pots, and yet not enough to excite them into premature growth.

Chinese Chrysanthemums.

It is not our purpose now, to speak of the mode of cultivating this plant—our past readers, at least, need no instruction on the subject—but we wish to give a list of the best sorts in our own collection, and which we can, from experience, recommend to our friends. Our plants have been in full bloom at a chamber window, from November 1st up to Christmas, and now have gone into their Winter quarters in the cellar. There they will hibernate, with no further care from us until next May, when new plants will be propagated from slips.

The longer we have grown this plant, the more do we like it: it is so accommodating, so easily managed, and gives such a wealth of flowers for so little pains. Every body ought to have a window full of chrysanthemums. Here are some of our favorites: Hendersonii, fine yellow, and quite early; Sacramento, orange yellow, with a red center, (distinct from Hendersonii); La France, white; La Gitana, blush pink, exceedingly beautiful; Lartay, lilac; Pi-quinillo, crimson purple, dark; Louise Meiller, creamy white, fine; Brunette, red; Mignonette, rose colored; Nelly, blush white; Henriette Lebois, rosy purple; Sathaniel, rose colored; Nonsuch, very dark yellow; Autumnna, bronze, peculiar; Grand Sultan, carmine maroon; Minimum omnium, pink, very small.

The Wilmer's Laura Pink.

The Pink family, in all its branches, is ever popular, and deservedly so. It requires no remarkable skill in its management, is very easily propagated, and flowers profusely. Many varieties are perfectly hardy, and those which are not entirely so, require but slight protection.

The variety mentioned above, is one of the best. It blooms freely in the open ground in Summer, and again in the parlor window in Winter: it always has a contribution ready for my daughter's bouquet, where its beauty and fragrance make it an ever welcome addition.

To propagate it, take layers and put them down in the usual way, in Summer; or use cuttings, setting them in warm, sandy soil. It is really a monthly pink. We advise our lady readers to put this on their list of desirable plants for next Summer; it is now widely disseminated, and may be had of leading florists.

Rustic Flower Baskets.

These contrivances are always pleasant to look upon, suiting the taste of the most refined and the least cultivated. They are sometimes



Fig. 1.

made in the form of a tripod, or of a four-legged pedestal, (Fig. 1.) with a basket on the top of it. This basket is often made of branches of grape-vine and rods of cedar: the cedar composing the frame, and the grape branches the lattice work. They will last many years, if kept under cover in

Winter to prevent their being weather-beaten.

Then, again, they are made in the style indicated by Fig. 2. A small tree which has died, is selected for the support: it is sawed off at any convenient height from the ground—say four feet—and a basket set on the top and fastened there by nails. This basket may be a simple box veneered with bark tacked on with small nails, or it may be a series of boxes of different sizes rising one above the other, as shown in the cut.

The second and third boxes from the bottom being each larger than the one above, may be filled with soil and set out with plants. A portion of these plants should be trailing sorts, such as the blue lobelia, verbenas, petunias, calystegias, periwinkles. We have met, some-

where in a horticultural paper, with another style of basket, which we sketch from memory. [See Fig. 3.] Here, we get our pedestal by cutting off a larger tree just above the crotch of the lower branches. It is necessary, of course, that the lower branches should not be higher than five or six feet. Into this crotch a large rustic basket is set, made in some one of the ways above mentioned.

These plans are not given as models to be implicitly copied, but rather as hints for others to improve upon. The originality of every gardener may be shown by his seizing on every available opportunity in his own grounds, and converting them into scenes of novelty and interest. For example, a friend of ours lost a fine tree in his lawn last year; but instead of digging it

up at once, he sawed it off within ten feet of the ground, set two large plants of English Ivy at the base, and trained them around the trunk until they reached the top and hung down in graceful festoons. Again, in the grounds of a certain College Park, there were a dozen unsightly stumps of Lombardy Poplar: a gentleman who had the care of the grounds, dug out holes a foot



Fig. 3.

wide and eighteen inches deep in the rotten center of each, filled them with earth, and set out therein such plants as the calystegia, clematis, American Ivy, etc. They grew well, and for several years have been objects of great interest. These plants will grow there until the stumps decay and disappear, which will be several years.

Our purpose in this article will have been answered, if any of our readers have been set on the track of some simple device for ornamenting their grounds, however limited they are.

IN DOOR WORK.

Elementary Instructions in Plain and Fancy Work—Crochet....No. II.

BY MARIAN M. PULLAN.

Every one has heard during the last few years of *Crochet Work*, (pronounced Cro-shay). Many persons suppose that it is a new art. The name, a French one, is new, and is taken from the implement, a crochet or hook, with which it is done. But, in fact, it is very ancient, for it is doubtless the same work which used to be done by the shepherds when watching their sheep. We are told they wove their stockings and mittens by means of a rough wooden hook on the end of a stick, employing the coarse yarn spun by the women of their families. So, in this at least, there is nothing very new under the sun. Of all the various kinds of ornamental and useful work, crochet is the most easily learned, and one of the prettiest arts, when once acquired. The implements are simple; the stitches equally so: and the articles that can be made or ornamented by means of it, almost endless. In it, besides, there are no dropped stitches, or other difficulties of a like nature, as is the case in knitting; and if a mistake be made, it is easily remedied, which also, makes a great distinction between it and other fancy work, in which blunders are irreparable. In richness of effect, too, the finer kinds almost imitate the beauties of Old Point lace; it is impossible to say to what perfection crochet-work may yet be brought.

The process is that of first making a chain of a succession of loops, one drawn through another, and then working on those stitches, the thread

being drawn through a stitch of the previous row by means of a hook, or crochet needle.

The crochet needle is of bone, steel, or wood. It has a stem more or less long, and a hook at one end. Steel hooks are usually set into ivory or bone handles. However fine at the end, or hook part, they should increase in thickness toward the handle, or they are very difficult to work with. The hook should not be at all barbed like that for fishing, but simply notched, so that the material used will rest as a stitch in the hollow. Nor should the end be very sharp, for if sharp, it will inevitably cut into the fingers. For wool, which is the material generally used for winter work, a good hook may be made of any kind of wood that does not readily splinter. It should be about the thickness of a pen holder, and as long, with a knob at one end, to prevent the stitches from slipping off, and at the other end the hook. Make this by cutting a notch, one third the thickness of the stick, about a third of an inch from the end. Then gradually smooth away the wood above, to the depth of the notch, extending the slope back more than half an inch. After this, cut the end into a point, as little sharp as possible. Two or three of these hooks, large in size and length, make a good stock for wool work. The thickest should be a little thicker than an ordinary pencil, the finest the bulk of a thin pen-holder.

The simplest stitch in crochet, and the most useful for wool-work, is the one most recently invented, and called Princess, or Tunis stitch. It is this which we shall now describe to our readers, as plainly as we can in words.

One slip loop being made, and the hook inserted in it, hold the hook lightly between the thumb and fore finger of the right hand, with the barb not turned up or down, but even with the fingers and towards the person. The end of wool with the stitch just made, is kept between the finger and thumb of the left hand, close to the needle, and the thread to be worked, passing over the fore and middle finger, is held between the latter and the third. The middle and fore fingers being apart, the slightest movement of the left hand suffices to lay the thread over the hook, from behind it; when, if it be drawn back through the loop already on, a new loop is formed. These loops are called chain, or foundation stitches, and the great art is to

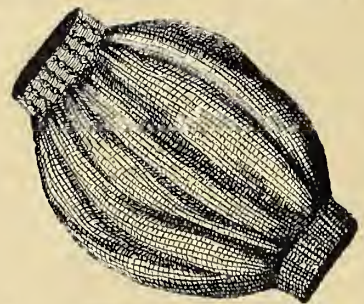


Fig. 1.—UNDERSLEEVE WITHOUT THE CUFF.

make them even, and to work rapidly. As you progress, you still keep the thumb and fore finger of the left hand close to the needle, which rests parallel with the fore finger, above the right hand.

Now for *Princess stitch*. When you have made enough chain stitch, the last one being on the hook, insert it in the nearest chain stitch but one; put the thread over, and draw it through, making a loop. Do this with every successive stitch, until all of them are taken up.

Second row, working back, and taking off the stitches. Lay the thread over the hook, and draw it through one loop; but after the first, do

this, and draw it through *two* every time, until but one stitch is on the needle. This one stitch will of course make the first stitch of next row.

The third row is somewhat, but not exactly like the first. On looking at the row just done,

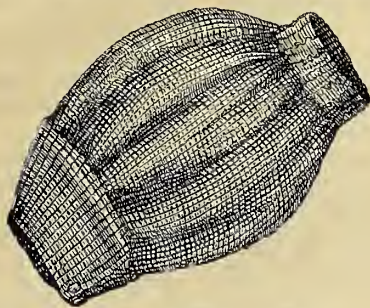


Fig. 2—UNDERSLEEVE COMPLETE.

you will see upright stitches on the near side, *not along the top*. Take up each of these in succession, until you have the full number on your needle again. Work the second and third rows alternately. To decrease in this stitch, you draw the thread through *two* instead of *one* at the end, or three instead of two in any other part of a row: but in the following row you put your hook through two upright loops instead of one.

We will now give directions for a very comfortable under-sleeve, for winter wear, the cuff of which is done in this stitch of crochet.

THE WOOLEN UNDER-SLEEVE.

The materials will be two ounces of single wool, and a few yards of another wool contrasting in color. Besides the crochet hook—a fine wooden one, and two bone knitting needles, also rather fine, will be wanted to work this undersleeve.

Begin with the band at the top. Cast on eight stitches, and knit, in the common way, a piece long enough to go round the arm, above the elbow. Cast off. Take up the stitches along one edge, and knit them, but before doing each one, bring the thread in front. Knit in the common way, which makes the thread pass over the needle each time, and so increases. The next and long succeeding alternate row must be purled, the stitch looking like the wrong side of a stocking. For this, bring the thread in front, and put the point of the needle in the stitch from the back to the front. Pass the thread round, and withdraw the needle backward, leaving the thread still in front, ready for the next stitch. Continue so to the end of the row. As you purl into a stitch every thread pulled over the needle,

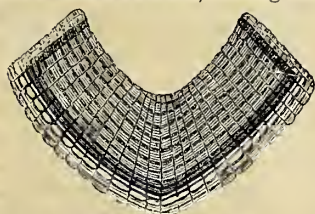


Fig. 3—CUFF OF UNDERSLEEVE.

you get double the number you took up. After this, when you put the thread round in knitting or purling, do it twice instead of once, which makes a long stitch, as it is only knitted as one in the next row. This makes very loose soft knitting, and answers better than using coarse needles. As much should be done as will cover the arm from above the elbow to the wrist, where an elastic band is to be knitted, after knitting one row with two stitches together each time, to decrease the number to half.

The wristband.—Have a number you can divide by 4. Knit 2 stitches, purl 2, alternately. As knitted stitches seem purled on the wrong side, you take care in the alternate rows, to knit the stitches you purled in the intermediate, and purl those you knitted. Do a piece of two

inches deep thus; it will make the sleeve sit firmly as well as comfortably around the wrist.

The cuff, which is to be sewed on, is done in Princess stitch. Make a chain of 69. Tie a bit of colored thread in the center stitch to mark it. Work backward and forward, decreasing one on each side of the center stitch, until you have done 24 rows, when the cuff will be pointed in the middle. Then, with wool of another color, do one row, taking up all the stitches at the ends and outer edge, so as to have them all at once on the needle, increasing a little at the points. Work back as usual. Do another pair of rows with the original wool, and then a single line of common crochet, and so on until large enough.

Finish the sleeve by joining the cuff to the edge of the wristband by a line of crochet, holding the wristband stretched out that it may afterwards contract to fit the wrist, and sew up the sleeve, nearly as far as the ribbing.

Hints on Washing the Hands, etc.

Some "philosophy" is useful in even so simple a matter as washing the hands; if any one doubts it, let her with a microscope examine the surface to be cleansed by water, and she will be interested, and perhaps shocked at the discoveries made. Instead of a smooth surface of skin, presenting, when unwashed, a dingy appearance, there will be seen a rough, corrugated surface, with deep irregular furrows in which the foreign particles are deposited like earth among the rough paving stones of a street. If they lay loosely, it would be an easy matter to dislodge them with a little cold water; but the pores, the waste pipes of the body, are continually discharging into these open drains, perspiration and oil, which, by evaporation, become a cement to hold the particles of dust, etc., and to remove them, requires both chemical and mechanical action. Warm water softens this cement, expands the furrows, and makes the skin pliable, so that by rubbing, the soil is disturbed and partially removed. But chemistry must aid a little before the process is complete; and soap is added, the alkali of which unites with the oily matters, and the whole is then easily disposed of.

The wash cloth is useful, because its threads or fibers work down among the furrows, like so many little brooms, sweeping them out; hence it should be soft and pliable. Flannel is preferable to cotton for this purpose, and a sponge is the best of all. Rough coarse cloths are objectionable, as they abrade the skin and leave it rough and more easily filled with dust than before. Harsh, strongly alkaline soap should be avoided for the same reason; it abstracts all the oil from the upper layer of the skin, and makes it "chapped" or crack. Where a sponge is not obtainable, a very neat and serviceable wash-cloth may be knit of soft cotton twine; either with the crochet, or with coarse wooden needles; knitting back and forth, as garters are knit. A mitten knit of tidy cotton with the crochet needle, is very handy for this purpose, and makes a neat article for the wash stand. A wash rag will not be tolerated by a tidy housekeeper. If cloths are used, let them be neatly hemmed, and kept scrupulously clean. Applying a little vinegar and water to the hands or face, after the use of soap, and rinsing off the vinegar with clean water, is a capital process to prevent chapping or roughness. The acid neutralizes the alkali of the soap, and keeps it from destroying the skin. Try this frequently, especially on washing days. Diluted vinegar or other acid is excellent for the face after shaving.

Take Care of the Umbrellas.

There is, perhaps, no article more abused or less deserving it than the umbrella. By a bad custom it has been voted out of protection as property, every man being at liberty to help himself wherever he can find one—provided, of course, he be not above meanucess. It bears the brunt of the storm, and is shriveled by the scorching sun; is counted a nuisance in the house while wet, and from neglect speedily falls a victim to hard usage. Hear a word in its behalf. After use in a storm, place it with the *handle downward*, in a stand with a tub or dish attached to catch the drip. If you have no such stand, nail together a shallow box of plained boards, with four uprights at the corners, and a few wires at proper distances passing around the uprights to form the frame. It will save many a puddle in the house, and many a storm from the neat housekeeper. If set with the handle upward, the water gathers around the joints at the top, rusts the wires, and this speedily rots the cloth. As soon as all the water has ceased to drip, the umbrella should be opened out, and set in an unoccupied room to dry. The observance of these precautions will prolong its usefulness at least one half.

Blinks from a Lantern...XXIV



IN SEARCH OF A FARMER'S WIFE.

I have been in search of a farmer for many months without finding any thing that answers exactly to my ideal of that article. I now purpose to turn the light of my lantern inside of the house, and search for a farmer's wife. I have already had glimpses of this personage in my journeyings, but the pretenders are quite as numerous as among the men.

Nothing is more common than to find discontent in the farmer's kitchen and parlor, where there happens to be a parlor to be occupied. This apartment is often found in the house, but in many cases it is visited as unfrequently as a grave yard. If it gets opened twice a year for airing and cleaning, it is very genteel doings. Madam mourns over her hard lot, thinks she works harder and sees less of the world than any mechanic's wife, and, in fact, is not much better off than the wife of the hired man who helps her husband on the farm. Bridget works all the while, and *she* is obliged to do no less. Bridget walks to meeting, while *she* rides, and that is about all the difference between them.

There has been a very great change in woman's condition since I dwelt in the flesh. The wife of the Greek peasant who tilled the soil, was little better than a slave, and the plainest log cabin, or dwelling of modern times, is a palace in comparison with her home. She not only had the drudgery of the household upon her, but very often the toil of the field also. There was no poetry in yoking a woman with an ass, and sending her forth to draw the plow and the cart. If I could but impart to some of the good housewives who complain of their

lot, a little of my experience and observation in the olden time, I am quite sure they would cease their murmuring. Between the Greek and the American woman, there is a long reach upward, that it is difficult for the present generation to comprehend, because they have no practical acquaintance with a different state of society. In this favored age and country, woman is no more doomed to the coarse rude toil of the fields, the companion of brutes. She is the wife and companion of man, generally of the man who appreciates her worth, and makes her the mistress of his home and of his affections. She is no more an unlettered drudge, with no thought beyond the present day and scene of her activity. She has had the advantages of the schools, and the world of letters with all its joys is open to her. There is more to quicken thought in a single newspaper that comes every day, or every week to her home, than all that a Greek woman read, or heard read, in her life time. She is linked by a thousand ties with the great world outside of her home, and feels that she is a part of society.

She has far more elevated hopes for herself and for her children. The schools are theirs, and the humblest mother upon the free acres of this favored land has as cheering prospects for her children, as the most favored. There is no barrier of caste for them to break through. She knows that a farmer's home has nurtured the proudest names upon the pages of the history of the country, and she may help to fill its future pages with the Washingtons and Franklins of a coming generation. No work can be so drudgery, that prepares the way for the realization of her cherished hopes. She may toil early and late, but it is blessed toil. She will live again in the lives of her children.

No error is more common, I find, than to suppose that another's lot is more favored than our own. Mrs. Jones, the farmer's partner, envies Mrs. Smith, the wife of the merchant. She thinks it must be delightful to have a store of her own to run to, and have all the nice things without money and price. She has no butter and cheese to make, no milk to look after, no large family to cook for, and no such lot of clothes to wash every week. Mrs. Smith, on the other hand, envies Mrs. Jones her neat white farm house in the country, with ample front yards and orchards, and acres of green grass and Summer flowers, her inexhaustible patch of strawberries, and her sweet cream and irreproachable butter, all without money and price. She does wish she could have such a range for her children. She will be so glad when her husband has made money enough to go into the country and live independently as a farmer.

Every man knows more of his own lot than of his neighbor's, and, of course, feels more its evils. But there is no perfect happiness of condition for mortals, and we shall err less, if we believe that our lot, whatever it may be, is more nearly perfect than our neighbor's. It is generally much better than we deserve, and probably the kindest lot that could have fallen to us, considering our characters. If we look at it rightly, there is much in it to be thankful for, and its burdens will grow lighter as we accept them, and make them our own.

In the single fact of independence which belongs pre-eminently to farm life, there is ample compensation for all its ills. The mechanic too often does not own his home. The merchant *nine times out of ten* fails in business and his splendor is short lived. The farmer's home, however humble, is his own, and all the broad acres

are the possession of his family for life, unless they choose to alienate them. I was much happier in my tub, than Alexander in his palace, for the king and his home belonged to the nation, though he, unhappy monarch, labored under the delusion, his life long, that the Greeks belonged to him. The tub was mine, and all the sunshine that fell upon it; if in any way the sunshine got obstructed, it was easy to move my habitation to where light was plenty.

The first element of success in the life of a farmer's wife is, that she accept her lot as the kindest thing that could have been ordered for her, that she magnify her office, and make the most of it. If there be in her a willing mind, she will find in her position and in her routine of duties, enough to develop her womanhood, ample opportunity for her to make the most of herself as a wife and mother, and as a woman. It is something to fill these offices well, and to minister to the daily happiness and comfort of a household. As a means of livelihood this business is as respectable, and as good in its influence upon the mind and heart, as any other. Cooking is a philosophic art, and she knows much, who learns to do it well. The making of butter and cheese requires tact and skill, and contributes something to the well being of society. It is more than the gift of a cup of water, which has its reward. These and kindred arts of the good housewife contribute to the thrift and prosperity of the farmer. They help make a substantial and comfortable livelihood which is the material basis out of which grow all domestic virtues and graces. She who would shine as something more than a farmer's wife or dairy maid, should first shine in these capacities. Shining milk pans, pails, and cheese tubs, a neat kitchen and table, the clean bright faces of happy children are good omens for brilliancy in other quarters. So thinketh Diogenes.

A Good Chicken Pie.

This, if well made, is one of the most acceptable of "chicken fixings." A correspondent sends the following directions, to the *American Agriculturist*. Joint the chicken, thoroughly cleanse all the parts, and boil the pieces in just sufficient water until *tender*. Take them out, and add to the liquor, butter, pepper and salt to the liking: some also put in wine and additional spices. Line the sides of a deep dish with ordinary paste or pie crust, lay in the chicken, pour over it the liquor, and distribute about the dish a dozen balls the size of a walnut made of butter and flour worked together. Cover with paste, pinch it well together about the edges, but leave an opening in the center for the steam to escape. The top crust may be ornamented according to the fancy. Bake in a quick oven until the crust is well done.

For the *American Agriculturist*.

Boned Turkey.

This noble bird, the pride of American tables, can not easily be recognised after undergoing the culinary process termed "boning;" but for a cold relish nothing more acceptable need be sought. It is a favorite dish at evening parties. It may be thus prepared: Boil a Turkey in as little water as may be, until the bones can be easily separated from the meat. Remove all the skin; cut the meat in thin slices, mixing together the light and dark parts. Season with salt and pepper. Take the liquid in which the turkey was boiled, having kept it warm, pour it

on the meat, and mix well. Shape it like a loaf of bread, wrap it in cloth and press with a heavy weight for a few hours. When served up it is cut in thin slices.

More Good Puddings.

DELICIOUS PUDDING.—Contributed to the *American Agriculturist*, and rightly named as we have proved. Bake common sponge cake in a flat bottomed pudding dish. (Several may be prepared at one time, as they are quite as good when a few days old, and very dry.) When desired for use, cut it into sixths or eighths, split each piece, butter them, and return them to their places in the dish. Make a custard with four eggs to one quart of milk, season and sweeten to the taste, and pour it over the cake. Bake half an hour. The cake will swell and fill the custard.

COTTAGE PUDDING.—Contributed to the *Agriculturist* by a lady friend—we can endorse it from trial. Stir well together, 1 pint of flour, 1 teaspoonful of butter, 2 eggs, 1 teaspoonful soda, 2 teaspoonfuls cream tartar, and 1 teacupful of sweet milk. Put in a deep pan, and bake half an hour. Serve up with sauce made to the taste.

WHEAT FLOUR PUDDING.—Very nice. For *baking*, use 1 qt. milk, 9 eggs, 9 table spoonfuls of flour, and 1 teaspoonful of salt. For *boiling*, 1 qt. flour, 1 qt. milk, 5 eggs, 1 teaspoonful of salt.

A Plate of Cakes.

Contributed to the *Agriculturist* by modest subscribers who withhold their names.

NEW YEAR'S CAKE.—Stir together 1½ lbs. white sugar and ½ lb. of butter. Dissolve a small teaspoonful of pearl ash in 1 pint of milk and add to the butter and sugar. Stir in 3 lbs. flour and 2 tablespoonfuls of caraway seeds. Roll about half an inch thick, cut in small cakes, and bake in a quick oven. These are good says one of the editors who has proved them.

GINGER SNAPS.—Rub together 1 cup of butter (or half butter and half lard,) and one of sugar, adding a little flour. Mix this with 2 cups of molasses in which a teaspoonful of soda has been well stirred. Add 1 cup of water, and spice to the taste, beating the whole very thoroughly; after which work in flour enough to make them mold easily. Roll thin, cut small, and bake in a quick oven.

JUMBLES WITHOUT EGGS.—2 cups sugar, 1 of butter, 1 of milk and water, 1 teaspoonful essence lemon, 1 do. cream tartar, ½ do. soda.

A Batch of Pies.

A good "housekeeper" in Middletown, Ct., contributes the following items to the *Agriculturist*:

CRACKER MINCE PIE.—For four pies of common size, break five large crackers into a pint of warm water; add 1¼ cups of butter, ½ cup molasses, ½ cup vinegar, ½ cup chopped raisins, 2 cups sugar, with cinnamon, cloves, and salt to your taste. [Rather a rich pie for a weak stomach!]

CREAM PIES.—Take one quart of thick cream and stir in one well beaten egg, dusting in flour if the cream be not too thick. Sweeten to your liking, flavoring with lemon juice. If the cream is *very* thick, the egg can be omitted. [A "glorious" rich pie, this, for those who have the cream. (People in this City and Brooklyn, will find Borden's Condensed milk an excellent substitute for cream.) A custard pie with milk and eggs, with a little flour dusted in, which is usually a good addition, we be-

lieve, is never bad to take; but whose mouth would not water at the sight of a pie made of pure cream instead of milk? When our nice butter is not worth 25 to 28 or 30 cents a pound, we shall go in for the cream pie.—Ed.]

Household Matters in Store.

About twenty five more good items have been contributed for this department, and we will leave more room for them in the next number. We hope our house-keeping readers will continue to supply a good stock of original materials. We expect to publish at least one hundred good household articles this year, or one for each penny paid for the *Agriculturist*. We shall also have something to say about the science of cooking, that will, we trust, be of practical utility.

BOYS & GIRLS' COLUMNS.

The Editor with his Young Readers.

A HAPPY NEW-YEAR,

Yes, many a one, to all our old friends among the girls and boys, and to the thousands of new ones that have just entered the *Agriculturist* family. We once gave this salutation to a youngster on New-Year's day, and he rather took us aback for a moment, by enquiring "What are you going to give me to make me happy?" You may think that rather impolite, as it was, but it carried a good lesson with it. At the beginning of the year every body is ready with the customary greeting; the children are up bright and early to "catch" father and mother, and their companions, by calling out first, "I wish you a happy New-Year." If a stranger from the moon or some other planet should visit Earth on that day, he would think, "what a loving people," but we fear if he should happen in at some houses the following week, he might say, "what a set of hypocrites; they were just wishing that all might be happy, but they are doing nothing to give enjoyment to any one—each is looking out only for himself." How would it beat your house? "But, Mr. Editor," you may say, "suppose you take a little of your own preaching, and let us know what you are doing to bring about your wish of a happy New-Year to us all."

We think our old friends among you will be satisfied of our good intentions, as we point to the boys' and girls' columns of the past year, and reply, "We have plenty more left of the same kind; new stories, new pictures, new puzzles, and, best of all, new zeal; for we grow to love the children's part of the paper more and more; and our new acquaintances will, we feel confident, not regret the day when father or mother subscribed for the *Agriculturist*."

A TRICK THAT DID NOT PAY.

Many years ago, before friction matches were invented, few persons had seen phosphorus, and it was sometimes used to terrify the ignorant, by making luminous writing with it upon the walls of darkened rooms, and for playing various tricks. A young girl who had seen such performances, procured a small quantity, and while on a visit to her friends, resolved on having some sport with it. There were some half a dozen girls together, and upon retiring, after the light was extinguished, she placed a bit of phosphorus in the palm of each hand, and commenced her exhibition, by waving her hands about, showing two bright spots in motion, to the great astonishment of the rest. Presently she clapped her hands together to lighten the effect, when the phosphorus took fire, which caused her to scream with pain, and to wildly throw her hands about to extinguish the fire. Her companions supposing it a part of the performance, applauded highly, and it was not until some of the family, alarmed by the noise, came in to her relief, that her distress was discovered. She was severely

burned, and never again meddled with so dangerous a plaything—you may add the moral.

Uncle John's Study....II.

By Raleigh Truman.

MR. EDITOR.—It would have pleased you, I think, to see Uncle John's surprise when I handed him the last number of the *Agriculturist*. We were seated in the study for a good time, as usual, and Susie was just about to ask him how the man got so many feathers from the hat, when I took the paper from my pocket. He glanced over the pictures, then turned to the Boys' and Girls' Department, and almost immediately exclaimed, "Well done Raleigh; but I must be careful what I say, you're such a faithful reporter." I thanked him for the compliment, and told him that as he could now talk to a hundred thousand or more girls and boys, I hoped it would increase his pleasure in talking, a hundred thousand fold." At this moment cousin Grace burst into the study without even knocking—she is usually very polite—clapped her hands, and fairly danced with glee. "Oh, said she, it was so funny! she was so nicely taken in!" Why, what's the matter, Grace," said we all. "The old cat was fooled by her own eyes," replied she. "My pet mocking bird sat singing in his cage, which stood near the window. The window was closed, and a strange cat, which had been prowling about our yard, spied him, and thought what a fine breakfast he would make. She crept along the fence very slyly, until quite near the window, and then with a spring pounced upon the cage, as she thought, but her head came bang against the glass, breaking it to splinters. She fell upon the floor with a meow, gave such a frightened look, and darted away again through the broken window, and over the fence, before I could say 'cat.'" We enjoyed pussy's discomfiture very much, for Grace's bird is a great favorite. Fred facetiously remarked that she deserved the pane in her head.

"Now about the feathers, Uncle John," said Susie, "for I can't get them out of my head."

The eyes of the spectators were deceived," replied he, "I have seen the same trick, and Fred will remember that during its performance, the man went behind a table several times; as he passed, he exchanged the hat he held, for another filled with feathers. He did it quickly, and at the same time managed to divert the attention of the audience by talking about some other subject. I have seen a man appear to swallow a sword two feet long, and perform many other impossible things. Some curious appearances are produced by contrivances made for the purpose. I have just received from Germany a toy invented there, which I shall name the "magic box," by which very remarkable and beautiful things are shown."

He opened his book-case and brought out a small green paper box, nearly round, having an opening at the top and bottom. "Now," said he, "I will put some money into it, and shake it up, and you will find the box will arrange it all in the most complete order. He rattled the coin for a moment, and then placed it under the box on the table. "Oh, isn't that nice?" said Susie, "just look; eight ten-cent pieces, a little ways apart, all in a circle." There they were, we were certain, until Uncle John lifted the box, and we saw but *one* coin. "Where are the rest?" exclaimed we. "That is all," said Uncle John. This was hard to believe, but we could, by this time, trust Uncle John's word better than even our own eyes. "Now for another wonder. Susie, can you draw?" "No, sir," replied she. "Well, scribble some marks upon paper, no matter how they look, and we'll place them under the box." So she made a few pencil marks, which looked something like a brush heap badly tangled. The box was placed over them, and there appeared a regular and beautiful figure, such as is used for ornamental bordering in printing and engraving. We were greatly astonished, and still more so, when, by slightly moving the box over the marks, another handsome design was shown, and so on for five minutes or more, each figure being new and beautiful.

"A magic box, indeed!" cried Fred, "Wouldn't it

be splendid to have such a contrivance for my desk at school, where my books are always playing hide and seek; it would straighten them at once."

"Will it untangle a skein of silk?" asked Susie. Uncle John smiled and said, "we'll try it; here's a snarl of thread that will answer for the experiment." The box was placed over the thread, and though it was not straightened out exactly, there was presented the most curious arrangement; as if some one had knitted a pattern of the most regular and exquisite design. "Wonderful," we all exclaimed. Do, Uncle John, show us the inside of the box, and tell us how it is made.

[The Editor is very sorry to have no room for the rest of Raleigh's report. We have procured a "magic" box, and find it a new and wonderful thing, and yet easily made. Look out for engravings and a full description next month.—Ed.]

NEW PROBLEMS FOR VOLUME 20.

No. 1.—*Enigma*, by a friend of the children, over 80 years old; forwarded by Milton Deming.

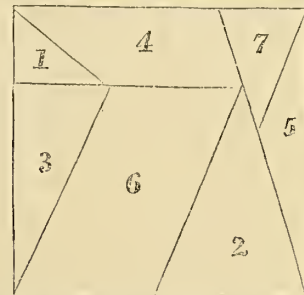
My native place was in the wood,
And mother earth my only food;
I then had life, but now am dead;
No longer by kind mother fed.
Transmogrified I now appear,
A thing of use, though looking queer;
My head is covered, not with hair—
My tail stands upright in the air.
I have a thousand useful wings,
Good housewives all admire these things.
I settle women's worst disputes;
For them I fight both men and brutes.
When desolation was foretold,
The Prophets mention me of old.

No. 2.—*Illustrated Rebus* contains a true statement.



ANSWERS TO PROBLEMS.

No. 30. *Figure Puzzle*—(See ent in December No.)
Answer.—The pieces are properly arranged thus:



No. 31. *Enigmatical Story*.—Answer—"Christmas and New-Year Holidays." By numbering each of the letters of these words from 1 up to 27, all the words in the story are easily made out.

Correct answers received to Dec. 7th, and not previously acknowledged: Wm. L. Raymond, No. 29; Jas. M. Graybill, 29; A. S. Kirkmore, 29; Katie M. Humphrey, 29; Mary M. Halladay, 29; C. J. Page, 29; Jarvis H. Arnold, 29; J. R. McBurney, 29; Franklin Adams, 29; John H. Dony, 29, (thanks for your efforts to obtain subscribers); John W. Gibson, 29; Carrie and Sallie Thomas, 29; M. M. Mahlon, 29; E. B. P., and S. L. P., 29; Robert M. Hasbrouck, Jr., 29; Joseph T. Mason, 29; J. P. Yoder, 29; Matthew P. Sellers, 29; J. H. Carman, 29; C. H. H., 29; Amos M. Peck, 29; J. O. Hatch, 29; M. J. Old, 29; Joseph P. Moss, 29; George W. Moffit, 29; Cornelia C. Cunningham, 31; Helen A. Holmes, 31; Haller H. Bayley, 31; Emma J. Taylor, 31; Jarvis H. Arnold, 31; Minnie St. Clair, 31; Mary E. Bishop, 31; Mary W. Shephard, 31; M. H., 30, (thanks for the new puzzle, it may do at some time); Jas. H. Gamble, 31, (enigma accepted with thanks); "Young America," 30, 31; Bella R. Frick, 30, 31; Charles J. Ladd, 31; H. H. Witmer, 30, 31; W. W. Knight, 30, 31; W. H. Miller, 30; Charles L. Siewers, 30, 31; "Glen Cove," 30, 31; M. E. Hendricks, 31; Lodella L. Powers, 30, 31; James Stewart, 31.



PORTRAITS OF "SHAVEHEAD" AND HIS "LADY."
(Drawn from Life by A. O. MOORE, for the American Agriculturist.)

"It takes all kinds of people to make up an assortment." The accompanying engravings illustrate the adage. The following interesting account of the queer looking couple above, and the odd manner of Indian baby-tending, was prepared for the *Agriculturist* Boys and Girls by our friend, and theirs, A. O. MOORE, Esq., who spent several months in traveling through California and Central America.

THE "DIGGER" INDIANS OF CALIFORNIA.

Indian stories you have all read or heard—of their battles with the whites who first settled this country; for the *war whoop*, the *tomahawk*, and the *scalping-knife*, which once terrified the children of our now peaceful land, have been sounded and flourished again in books, before our imaginations, until little boys look wishfully at their father's rifle and powder-horn, thinking how they would defend their home if Black Hawk or Tecumseh, or some such hideous painted fellow should attack it; and little girls throw their arms around the baby and declare that they would themselves die before the *red-skins* should kill the little darling. Now it is very natural for us to feel thus; but did you ever think how the little Indian children feel about the white enemies who have driven them from their homes and killed their fathers, yes, and sometimes their mothers too? I must confess that I was mentally taking the part of the poor ignorant savages against my own countrymen, as, one bright Spring like day of a California Winter, I was walking in the city of San Francisco. I had been informed that five hundred captive Indians had been brought to the city on their way to what their white captors had decided should be their future home in Mendocino county, and was on my way to their encampment. I soon reached the shore of the bay. Crowds of citizens, attracted by curiosity, surrounded the enclosure, which was merely a line of ropes guarded by soldiers. Within, were the miserable creatures who had been caught like wild beasts. When first brought to the city, they were nearly naked, and suffered much from the cold, but the kind-hearted ladies of the city had sent them cast-off garments and blankets, until nearly every Indian man, woman, and child, had some article of civilized dress, of

which they seemed quite proud. There were men with ladies' worsted hoods; squaws with gentlemen's hats and overcoats; boys and girls wearing coats whose skirts dragged on the ground, and searching in vain for their lost hands in the great sleeves, laughing heartily at each other's droll appearance or tumbling over one another in the scram-



"DIGGER" INDIAN WOMAN AND CHILD.

ble for apples which the crowd threw to them. These were the "Digger" Indians of California, so called by the white settlers, because when seen

among their native hills, they are generally engaged in digging for roots, which form their principal food at some seasons. They also eat wild berries, and consider the Grasshopper or Locust, which is sometimes so great a scourge to the farmers of the Pacific coast, a great delicacy—eating them raw or roasted, as may be convenient. Though they are considered the most degraded of all the inhabitants of the North American continent, and in early times seemed too cowardly to attack a white man except when he was entirely alone, yet latterly they have become better armed and more exasperated by the whites, and are now formidable foes. Cattle stealing and murdering small parties of emigrants passing through their country, have been their principal "feats of war" however.

Not being satisfied with my position as an outsider, I slipped away from my companions, and with sketch book in hand, I passed under one of the ropes of the enclosure. I was soon hailed, however, by the guard, and politely informed that he could not admit me. Pointing to my book, I replied, that I wished to take sketches of some of the Indians; he hesitated, and then said, "well, there's the General, ask him." The General led me at once to some of the chiefs who were huddled round a fire built upon the ground. These seemed quite pleased when told that I wanted to draw their portrait, and taking their pipes from their mouths, sat up very straight and tried to look very grand. This I thought spoiled them for a picture, though I went on drawing. While at work with my pencil, a sentinel looking over my shoulder said, "Have you got Shavehead yet?" "Sir," said I, looking around, unable to guess what he meant. "Have you taken old Shavehead's picture?" "Who is he," I asked. "He's the biggest rascal of them all—that's him sitting over yonder. We had an awful time getting him, he fought like a *grizzly*, even after the boys had broken his arm with a rifle ball." This was enough to convince me that "Shavehead" was a good subject, and I bowed respectfully to the chiefs whom I had been sketching, and was soon seated before him. He seemed about 25 or 30 years old, rather slender, but with a strongly marked, resolute face. Unlike the other Indians, he remained sulky, and scarcely looked at me once. He was seated on the ground, holding out toward the fire his broken right arm which was bandaged and confined in splints.

"This is Shavehead's wife," said the sentinel, bringing forward a young woman who was really quite good looking. "His wife?" I asked. "Yes, one of 'em," and he bade her sit by her husband. She smiled and sat down, seeming well pleased to be "taken," but her husband cast many a sidelong scowl at her, which might have threatened a "curtain lecture." He even refused the piece of money I offered at the close of the sitting, but his "Lady" smilingly accepted his, as well as her own piece.

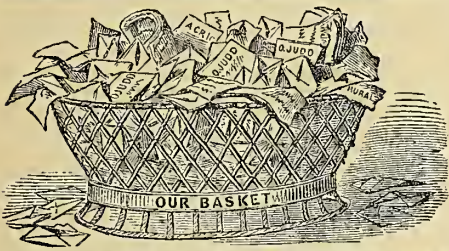
In the group around the fire, were a number of women with their children. These seemed the saddest of all the captives, and bent over the cradles in which were their dark, but none the less dear, infants, in silent but manifest sorrow. It is the old way to a mother's heart, to notice her child, and a gleam of sunshine broke over her dark features as I placed my camp stool before one of them, and by signs told her I wished to sketch her papoose. She

untied the outer covering of the cradle so as to give me a better view of the contents.

A glance at the engraving will show you that an Indian cradle is but little like those in which we have rocked our baby brothers and sisters to sleep. Outside was a basket-like case, made of the inside bark of trees and willow twigs. When the edges are drawn together over the child, and tied with leather strings, an opening is left just over the child's face, which can be covered by the round lid, as seen in the engraving, thrown back behind the cradle. This lid serves to keep off insects, etc., when the child is asleep or is swinging suspended from the limb of a tree.

The inside case is of softer material, apparently of dried grass, and within this is whatever of cotton or woollen cloths the mother can obtain.

There is a strap of leather which passes around the cradle, and, when traveling, fastens it to the back of the mother. To us, who seem to have hard work to keep babies still, even by jumping and trotting them until our arms and knees ache, it is a matter of wonder how the Indian baby with hands and feet bandaged straight and stiff, can be so submissive. I rather think there would be a fearful revolution up stairs if my baby was put into one of those cradles! But these Indian babies probably do not know their own rights, and so are very quiet and contented.



Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or interesting Extracts from their Letters, &c., &c.—to be drawn from whenever we have room left here.

Five Hundred More Basket Items Wanted.—We shall try to make room for at least 500 items in this department, during the present volume. So, send along the queries, useful items of information, etc., etc. We have many on hand, but shall soon use them up, when our present heavy "business season" is over. The "Basket" alone shall be worth many times the cost of the volume. The rest of the paper we'll "throw in."

Those Cream Pies—Erratum.—One of our Male Editors rashly intermeddled with the directions for cream pies on page 22 of this number (already printed), and as might be expected, he got it wrong; it should read "flavor with lemon peel," not juice.

Water for Stock.—A subscriber asks whether fattening cattle fed on roots and hay, should have water, or be kept close in their stalls. Give them all they desire to drink. Thirst is nature's call for a necessary element in the body. Fattening animals particularly, need plenty of water, to aid in eliminating the nutriment being added to the system.

Water from Springs.—A. M. Gates, jr., New-Haven Co., Conn. If a spring be properly enclosed, the water will rise to the level of its source, and can be conveyed away by pipes. We cannot judge of its feasibility on your premises, without examination of the locality; from the description, we judge the plan might succeed.

"Grub Worms" Destructive.—Geo. F. Connor, Hamilton Co., Ind., writes that his corn crop has been almost destroyed for two years past, by a worm or grub which attacks the roots of this and other grains, usually during May, and continues to work until nothing green remains. He describes it as 1½ inches long when full grown, the body white, and the head black. He inquires for a remedy. Plowing late in the Fall will expose many to the Winter frosts, and so destroy them. Perhaps some of our readers have succeeded in extirpating them from their own grounds. If so will they please communicate how it was done.

Distinguishing Quince Stocks.—J. S. Graham, Calaveras Co., Cal. It is not easy to describe the varieties of quince so that one can tell a particular sort by its growth. The Angers is the best stock for working the pear upon. It is propagated by cuttings and layers, is stronger and of more upright growth than the common.

Better Peaches.—George W. Murphy, Alleghany

Co., Pa., referring to the "good peaches" described in last October No., page 313, says they were excelled by the yield obtained by a neighbor, Mr. McClosky. Out of twenty five, none measured less than 7½ inches in circumference; the largest was 11½ inches and weighed 8¼ ounces. They were probably Crawford's late.

Grapes for the North.—W. B. Hazard, Addison Co., Vt. The Delaware grape is superior to the Rebecca in flavor, and more hardy. It will doubtless succeed in your latitude, but the Concord should be your main reliance. It is doubtful whether Anna, Elsinburgh, Allen's Hybrid, Clara and Cassidy will prove hardy so far north.

Texas Wild Grapes.—J. B. Elliott, Austin Co., Texas. The grapes you forwarded were too far gone upon arriving here to admit an opinion of their quality.

Inducing Fruit Bearing.—"An Old Subscriber" writes, "I have tried with most gratifying success a method of promoting fertility in trees, which was first suggested to me in the *Agriculturist*. I have a large Bartlett pear tree which has persisted year by year in making a most rampant growth; but which refused to do its duty in the more important matter of fruit bearing. In July last year, I took a stout cord and bound it as tightly as possible, three or four times around the trunk of the tree, and left it there until November. The result is that this year my tree had about three hundred large, fine-looking pears upon it, so loading it down that I had to prop up several of the branches to prevent their breaking. The tree at the same time has made a strong, healthy growth of about six inches."

Pin-Cushion Cactus.—Sent 2000 miles by mail.—Dec. 1st, we received from James Eubank of Circleville, Texas, a pretty Cactus, the head about the size of a hen's egg, and resembling, in form, a globular pin-cushion on a short standard. Mr. E. writes that: "It is found chiefly on dry stony points of land, and bears the most beautiful blossom I ever saw. By some it is called the Mountain Cactus, from its locality; while others call it the Pin-Cushion Cactus from its form." It was put up with a little ball of clay around the root, and rolled in paper; and though knocked about in the mail bags for two weeks, it now appears to be growing well in a pot of earth.

California Grass.—J. A. Wigginton, Boone Co., Mo. We cannot make out the variety from the specimen sent. It resembles the Italian Rye Grass, but coming from the Humboldt River, Cal., it is probably a native sort, and from your account, may be worth cultivating.

Egyptian Corn.—This humbug which was exposed in Vol. XIX, page 71, March No., is thus alluded to in the *Prairie Farmer*. "A most wonderful humbug... the man who got the people's money for it, should be compelled to swallow nothing but grains of this corn for a whole year."

Chinese Tree-Corn.—R. Martin, Washington Co., N. Y. Do not invest in this article—it is a humbug.

Manzaneta.—Mrs. E. Bowman, Cal., sends a twig with leaves of a very beautiful evergreen shrub known there by the above name. We should be pleased to receive a full description of the plant, and also to accept the seeds kindly offered.

Sketches of Flowers.—Miss. L. A. Matson, Orange Co., Vt., sends several very neat sketches of flowers and fruit, for which she will please accept our thanks. One or two of them may appear in our columns.

Draining a Garden.—B. R. Phelps, Jr., Scott Co., Iowa. The effect of draining, is to deepen the soil; to allow better facilities for the roots to descend for food; to get rid of superfluous moisture, and to introduce air which plants need. It will pay in clayey soils; every crop is benefitted by it.

A Kansas Garden.—J. P. Cone, Atchison Co., Kansas, writes that there grew in a neighbor's garden, a beet weighing 10 lbs.; a radish of 11¾ lbs.; a cucumber 19½ inches long and 8 inches around, and a winter crook-neck squash 3 feet in length. This, in ordinary seasons, would not be remarkable, but where a drouth has prevailed for the whole season, it gives promise that under favoring skies Kansas vegetation will be difficult to beat.

Cheap Lands in the Old States.—II. of Iowa. These lands may be found all along the lines of travel from Ohio to New-York, frequently advertised in the local papers, but always to be obtained on inquiry.

Mammoth Leghorn Squash.—C. M. Green, Broome Co., N. Y. The above squash when pure, is nearly round, flattened at the ends, what might be called rather oblate, of a creamy yellow color, and growing from 30 lbs., to 150 lbs. or more in weight. Though not equal to the Hubbard or Honolulu in flavor, it is good, and so very prolific as to be quite profitable.

Preparing Dried Grasses.—Jas. A. Graves, Waverly, N. Y. Collect the specimens when in flower, hold them for a few moments in hot steam, then spread them carefully between folds of blotting (not tissue) pa-

per to absorb the moisture. Lay weights upon them; leave them until pressed dry. They can then be made up into bouquets according to the fancy. Steaming them before pressing, aids in keeping them of the natural color.

Tall Corn, and a Great Deal of it.—A. B. Miller, of Marion Co., Iowa—a first-rate county to hail from—writes to the *American Agriculturist*, that a premium having been awarded in 1859 for about 80 bushels of corn per acre as the largest crop, several farmers made an effort to excel this in 1860. The result of the competition was, that Mr. B. Long, produced one hundred and seventy eight bushels per acre, on three contiguous acres. Several others raised from 100 to 122 bushels per acre. If there was no mistake in the measurement, "King Corn" must install Mr. Long, as Prime Minister. But, hold! Further on in the same letter, we read that Mr. Long's own son, under 14 years old, raised 94 bushels and 50 lbs., on half an acre, and carried off the premium of \$10 offered to the boy under 14, living in the county, who would raise the most corn on half an acre. This is at the rate of 189½ bushels per acre! That will do.

Gardener's Wages.—George Martin, Bath Co., Va. There is no reason why a man employed in the garden should not receive equal compensation with a farm laborer, provided the skill of each be the same. In this section the gardener is usually better paid than the man of all work upon the farm. The compensation should be governed by the amount of service required, and the skill necessary to perform it.

A Digging Match.—A subscriber at Niagara, N. Y., forwards for the *Agriculturist* an account of a friendly match at digging potatoes which came off in that neighborhood. James Black and John Gallagher, each dug one hundred bushels within four hours, using a common potato fork. The men were so nearly equal that the match was decided to be drawn.

Long Leaf Pine.—Seeds received from Ira T. Wyche, Halifax Co., N. C., which we shall have planted, to test them at the North.

Standing Cypress.—Wm. Hayes, Ulster Co., N. Y., sends a specimen of this beautiful plant, cultivated in his garden. He writes that the plant grows eight to nine feet high. We should be pleased to receive seed.

A Heavy Dog Tax.—A farmer in Ohio, writing to the *Steubenville Herald*, says that in one night he had 61 Spanish Merino Sheep killed and wounded by a dog. He estimates his loss as follows: 61 sheep at \$5—\$305; damage to balance of flock, \$25. Total, \$330. A pretty severe tax for one man to pay.

A California Farm.—According to the authority of the "California Cultivator" the great grain farm of Hutchinson & Green, of Yolo Co., Cal., contains 5,000 acres, 1,000 of which were in wheat the past season, 1,000 in barley, and 900 were mowed, the balance being in pasture. The wheat averaged 30 bushels, and the barley 40 bushels per acre. Of hay, 1,800 tons were cut and stacked. Among the stock was a herd of 100 milch cows, a cross of the native with the Durham.

Aged Horses.—Mr. Dampier, a farmer near London, Eng., is said to have in his possession a horse 56 years old, which he rides daily about his farm, and occasionally on a hunting excursion. It might be well to gather a few facts respecting the age to which horses live in this country. We invite those knowing horses over 40 years old (without mistake) to send us a note of them.

Insects from Illinois.—Wm. H. J., Piatt Co., Ill. The insects upon the wheat stalks sent to this office are the Hessian Fly, in the chrysalis state. When very abundant they are quite destructive to the crop. A full description of the insect, with engravings, was given in Vol. XVII, page 240, (August No., 1859.) If, on examination by a competent person, they should be found numerous enough to greatly impair the yield, it might be advisable in the Spring to turn the wheat under and plant to corn or sow with oats.

Carrot Culture.—J. B. S., Waterloo, Doon, C. W. writes, that last year he raised from three-fourths of an acre, 700 bushels of White Belgian Carrots. The land was enriched with well-rotted barn-yard manure, and plowed deeply in the Fall, turned over again in Spring, and sowed on the 5th of May. A neighbor of his manured with bone dust and leached ashes, and the yield was quite small. He says the carrots grew well until they reached the manure, and then branched off in every direction. [It is quite likely they "touched bottom" on a thin soil, and were obliged to spread, or stop growing. Draining or subsoiling the field might remedy the difficulty.—ED.]

Poison Ivy—Rhus Radicans. (R. Toxicodendron of Gray.)—J. Jenks, Wright Co., Minnesota. The specimen you sent, proves to be the above. Some persons can hardly even pass it without being poisoned, while others handle it with impunity. Probably the humor you allude to was caused by eating the leaves. The writer of

this, frequently ate the leaves when a boy, without perceptible injury, being told it would prevent poison. He would not risk it again. Salt water, or water from a blacksmith's forge is often recommended to relieve the irritation. Apply it to the parts affected, with a sponge.

Mr. Harey, who has made the title of "horse tamer" honorable, has returned from Europe, bringing abundant fruits of his successful tour. In a conversation with him recently, we were pleased to learn that he intends giving public exhibitions of his skill in this City, and perhaps at other prominent points.

Grape and Hedge Books.—H. C. P., Eric Co., O. Chorlton's Grape Growers' Guide, 60c, and Warden's Hedges and Evergreens, \$1, are good works on their respective subjects. We can send them by mail upon receipt of price.

Seventeen Year Locusts in the Nursery.—E. Williams, Essex Co., N. J., brings us twigs of young pear, peach and plum trees, to show that the locusts damaged his nursery, notwithstanding the assertion often made that they do no injury. The twigs are punctured to the heart for almost their entire length, rendering amputation necessary. The piercings are too numerous to "facilitate the formation of fruit-buds." These remind us of fresh-punctured twigs brought in by Mr. Clew, of Hyde Park, N. Y., during the prevalence of the locusts in the Summer. They appeared very much as if a charge of small shot had been fired into them diagonally.

Potatoes and Manure.—F. W. Morgan, Albany Co., N. Y., writes that in a field planted with potatoes last year, a quantity of manure was left on the surface where the heaps had laid, and in these spots where the potatoes grew in the manure, with no earth in contact with them, they were almost free from rot. In other parts of the field, where the manure was spread and harrowed in, nearly half the potatoes were decayed. He asks why this was so. It may be the soil was too wet for a healthy growth; but there is too little known of the potato disease to decide on this or any other case with certainty. Such facts are useful, however, and aid toward a discovery of a remedy.

Portfolio Paper File is the name given by the inventor to a very convenient arrangement for preserving papers, magazines, pamphlets, etc. In outward appearance it resembles an ordinary book cover. The papers are held in place by two cords which are passed through their backs by means of two steel pins. These pins are fastened to the cords, and after being thrust through the papers, are attached to an elastic strap on one of the covers, which keeps them stretched, and holds every thing firm. We have the article in use in our office, and find it very convenient. The prices are from 50 cents to one dollar, according to the size and finish.

American Herd-book—Volume V.—This work, which is of great interest and value to every owner of Short-horns, is now in course of preparation. Every such person who has not already done so, should send at once to the editor, Lewis F. Allen, Black Rock, Erie County, N. Y., and obtain a circular, giving particulars in reference to the plan of the record, etc.

Pronouncing Bible.—An edition of the Bible, in which the proper names are divided and accented, so as to show the proper pronunciation. It is in large, clear type, and just what is wanted. Published by Carlton & Porter, New-York. Price, \$2 to \$4, according to style of binding. The purpose of the editors of this work is so good, that criticism is, in a measure, disarmed. Much pains has been taken in giving the appropriate accent to each proper name, and though in a few cases we question the pronunciation given, yet we think this edition could be used with profit in most of the pulpits as well as families of our land.

Old Mackinaw; or the "Fortress of the Lakes and its surroundings."—By Rev. Wm. P. Strickland. This is an interesting book containing many new and striking descriptions of Indian customs and arts; a graphic account of the introduction of Christianity among the tribes of the Northwest; and also agricultural statistics of the country bordering on the Lakes. Published by Carlton & Porter, New-York. Price \$1. Sent post-paid by mail on receipt of the price.

Guide to the Central Park.—A neat, well arranged little book, by Saxton, Barker & Co. Price 25c. This is a revised and enlarged edition of the former issue with additional illustrations. We will forward copies post-paid to subscribers on receipt of price.

Book on Mixing Paints Wanted.—Several persons have, from time to time, inquired for a good book on mixing and using paints. Some of the older Scientific Encyclopedias give considerable information, but we are not aware of any book on the topic adapted to modern practice. The science of painting has undergone great improvements within a few years.

Cosmopolitan Art Association.—We hesitated some time before admitting the lengthy announcement of this enterprise into our advertising columns—bearing in mind the doings of the old "Art Union;" but having examined with pleasure the presentation plate of this year, "Falstaff mustering his Recruits," and having received the assurances of considerate friends who have been subscribers in the past, that the engravings received have been satisfactory, as well as the mode of conducting the enterprise, we find no reason for refusing to give publicity to the Prospectus for 1861.

Volume XI of the New American Cyclopaedia, is now issued, and, like its predecessors, is a magnificent one. It comprises 788 large two-column pages, and extends down the alphabet from MACG to MOXA. There are 1621 topics treated, giving an average of nearly a full column to each—the more important, of course, receiving proportionate attention and space. The articles are well written, condensed, and yet give all the information the popular reader would desire. Taking this one volume as a sample, and it is like the rest, our readers can judge somewhat of the amount of information that will be contained in fifteen or sixteen such volumes. To have such a work always at hand to refer to, may be compared to living constantly surrounded by a vast concourse of learned men to whom one can at any moment resort for information on any and every topic. We earnestly desire to see the work in every family possible. Our premium offer (See EB, p. 27) is enabling some to get it who might not otherwise be able to do so.

Bonner's Ledger.—We confess to an admiration for Bonner; his boldness and enterprise are qualities sure to win success in any pursuit. The vast circulation of the Ledger gives it an immense influence. It has now a larger corps of eminent men as contributors, than any other journal in the world, and we are glad to find that the proprietor is continually introducing into its pages a larger proportion of the writings of the first minds of the country, and diminishing the attention given to fiction which is rarely healthful to the mind. If this improvement goes on, Mr. Bonner may yet exert a mighty influence in elevating the morals as well as the literature of our country.

The Yale Agricultural Lectures.

The approaching course of Lectures and Discussions upon agriculture and kindred topics, commencing February 5th, and continuing daily through the month, is worthy the attention of cultivators throughout the land. We can think of nothing better calculated to awaken thought, stimulate progress, and impart practical information, than for a company of practical men to get together and spend several weeks in discussing the various points connected with soil culture. The convention at New-Haven, last Winter, though defective, perhaps, in some respects, as every new enterprise must necessarily be, was, on the whole, very satisfactory, and we hear of great activity in the efforts now being made to render the second convention, as far as possible, superior to the first. Among other preparations, there are to be illustrations of the subjects presented, including portraits of some of the finest animals in the country, etc., etc. The management of horses, a subject of much present interest, is to be illustrated by practical demonstrations upon living animals. This feature alone will be a decided attraction. We have not yet seen a full programme of the exercise or a list of the distinguished men who will be present and take part in the exercises, though we hear that among those who have positively engaged to be there, are; in fruit culture, Wilder, Parsons, and Grant; in Science, Silliman, Johnson, Dadd, etc.; in Agriculture, Quincy, Bartlett, French; in Stock, Morris, Howard, Dickinson, etc., etc.

We advise every young and middle-aged cultivator in the country, who can possibly do so, to arrange to spend February at New-Haven. The expense will not be large, as the cost of the enterprise is mainly borne by private subscription. A contribution of \$10 for the whole course, will be asked from each attendant, to meet incidental expenses. Board may be obtained at moderate cost. Full particulars on all these matters may be obtained by addressing Prof. Jno. A. Porter, at New-Haven, Conn.

Business Notices.

☞ Eighty Cents a Line of space.

COUGHS.—The sudden changes of our climate are sources of PULMONARY, BRONCHIAL, and ASTHMATIC AFFECTIONS. Experience having proved that simple remedies often act speedily and certainly when taken in the early stages of the disease, recourse should at once be had to "*Brown's Bronchial Troches*," or Lozenges, let the Cold, Cough, or Irritation of the Throat be ever so slight, as by this precaution a more serious attack may be effectually warded off. PUPPLE SPEAKERS and SINGERS will find them effectual for clearing and strengthening the voice. See advertisement.

THE GREAT FAMILY PAPER.

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THE GREAT FAMILY PAPER.

PROSPECTUS OF

THE NEW-YORK LEDGER.

We intend to make the NEW-YORK LEDGER for 1861 superior to that of 1860, or of any other year in the past. Among our contributors will be the PRESIDENT OF THE UNITED STATES, EDWARD EVERETT, GEORGE BANCROFT, WILLIAM CULLEN BRYANT, JOHN G. SAXE, GEORGE P. MORRIS, N. P. WILLIS, GEORGE D. PRENTICE, THOMAS DUNN ENGLISH, SYLVANUS COBB, Jr., EMERSON BENNETT, T. S. ARTHUR, P. HAMILTON MYERS, Col. WALTER B. DUNLAP, S. COMPTON SMITH, JOHN ESTEN COOKE, Mrs. SIGOURNEY, Mrs. SOUTHWORTH, FANNY FERN, ANNA CORA RITCHIE, ALICE CARY, MARY FORREST, MARI-ON HARLAND, Miss E. A. DUPUY, MARY STANLEY GIBSON, PHEBE CARY, and many Clergymen, Professors in Colleges, Statesmen, and other eminent writers residing in different parts of the Union.

Our corps of contributors for the coming year will be so large, and will embrace such a variety of eminent talent, that every department of literature will receive the particular attention of some one competent to do it ample and special justice. Whether it be popular romance, scientific essay, historical sketch, scholastic disquisition, splay paragraph, pathetic ballad, humorous poem, old-fashioned love story, timely editorial, or any other ingredient of popular and elevated journalism that is to be furnished, the LEDGER corps will be sufficient for the task. In fact, our contributors will send us, from week to week, much more matter than we can possibly use, so that we shall always have a fresh and superabundant supply, from which to select the VERY BEST. These facts, taken in connection with our largely increased means, facilities, and experience, warrant us, we think, in promising our readers a family paper for the year 1861 which will be more interesting and instructive, and in every respect more valuable even, than the LEDGER has been in the past.

As an indication of the popularity of the LEDGER, we need only state the simple fact, that its circulation is larger than that of any other TEN literary papers in the country. Its great success is owing to the fact that we secure the best writers in the country, and spare no expense in getting up the BEST FAMILY PAPER—a paper of high moral tone. The exalted reputation of its contributors, the practical and invariably pure and healthy character of all its articles, the care which is taken that not even one offensive word shall appear in its columns, and the superiority of its Tales and Sketches, have gained for the NEW-YORK LEDGER a position that no literary paper has ever before reached.

—ANNA CORA RITCHIE, of Richmond, Va., and Col. WALTER B. DUNLAP, the author of the popular "Forest Sketches," which were published in our columns some time since, will each begin a story in the LEDGER early in the new year. Mrs. SOUTHWORTH is also engaged upon a new tale.

—In the next number of the LEDGER we shall publish a very interesting article, written expressly for our columns, entitled, A DAY WITH LORD BYRON, from the pen of the Hon. GEORGE BANCROFT.

—It is with much satisfaction that we announce that Mr. EVERETT will continue his elegant and interesting contributions to the LEDGER during the next year.

As this is the season of the year when Postmasters and others are in the habit of forming clubs, we direct their particular attention to

OUR TERMS:

Single copies, \$2 per annum; two copies, \$3; four copies, \$6; eight copies, \$12. Postmasters and others who get up clubs, can afterward add single copies at \$1 50. The party who sends us \$12 for a club of eight copies (all sent at one time) will be entitled to a copy free for his trouble. Terms invariably in advance. No subscriptions taken for a less period than one year. Canada subscribers must send twenty-six cents in addition to the subscription, to pay the American postage, which is half a cent a copy on every paper. The notes of all specie-paying banks taken at par. When a draft or check can conveniently be sent, it will be preferred, as it will prevent the possibility of the loss of money by mail.

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PORTABLE, AND SET IN BRICK, ARE PRO-nounced by the most competent judges, to be the best in market, giving the largest amount of heat with the least fuel, owing to their being so constructed as to burn the gases and smoke, and with extensive radiating surface, arranged to warm the air rapidly to a soft summer heat. Eight sizes, adapted to warming one or two rooms only, or a whole house, CHURCHES, ACADEMIES, PUBLIC HALLS, etc., etc. Send for book of description and testimonials from some of the most respected citizens of New-York and elsewhere.

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suited equally to wood or coal, burns the gases and smoke, sifts its ashes, has eight openings for boiling, broils without burning or smell of smoke, and without interrupting boiling; OVENS unusually large, yet baking quickly and well at the bottom; flues very deep and easily cleaned; water backs, if desired; CASTINGS EXTRA strong. Three sizes. A PREMIUM over all others, was awarded at the late NEW-JERSEY STATE FAIR.

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This beautiful stove is all its name denotes. By an ingenious, yet simple arrangement of flues, it is so contrived as effectually to burn the gases and smoke, filling the interior with a brilliant blue blaze, and radiating the heat so completely, that the bottom of the stove is as hot as any other part.

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These great economizers of time and preservers of health, have won the highest premiums at the Fairs of the United States Agricultural Society, at the State Fairs of Maine, Vermont, Connecticut, New-York, New-Jersey, Pennsylvania, Virginia, Mississippi, Missouri, Ohio, Indiana, Illinois, Kentucky, Michigan, Wisconsin, California; and at the Fairs of the American Institute, New-York; Mechanics' Association, Boston; Franklin Institute, Philadelphia; Metropolitan Mechanics' Institute, Washington; Mechanics' Institute, Baltimore; Mechanics' Association, Cincinnati; Kentucky Institute, Louisville; Mechanical Association, St. Louis; Mechanics' Institute, San Francisco, and at hundreds of County Fairs.

"There is no better family machine than this made, as we have proved by nearly three years' use in our own family. We want no better."—*American Agriculturist*, December, 1860.

Office, 505 Broadway, New-York
SEND FOR A CIRCULAR.

No Radical Changes to be made in the American Agriculturist.

An intimation near the close of last volume, that we intended a little change in making up this journal, called forth prompt and strong protests from some of our long-time readers, who say: "give us the paper as it has been in the past." We therefore take occasion to say that we intended no radical changes in the form, style, or general character of the *Agriculturist*. We only meant to intimate that instead of devoting the entire paper to original practical essays, we should aim to give more gleanings, from various sources not so much looked to hitherto, such as letters from correspondents, the different agricultural and other journals, tours of inspection, etc. We are providing for the regular receipt of full fifty of the best agricultural journals published in this country and Europe, besides 2000 other periodicals. Our "busy season" extends about from Nov. 15, to Feb. 15th, during which time the editorial force must be partly engaged in attending to correspondence, seed distribution, business letters, etc. This over with, we shall, with our additional editorial aid in the office, be able to examine more carefully our large files of journals, especially those treating on agricultural, horticultural, and household topics, and to glean from them whatever may be of special interest and value. Our

readers will thus get the cream of a large mass of published matter. This will not, however, necessitate any material change in the contents or character of the *Agriculturist*.

PREMIUMS FOR 1861.

Vol. XX.

After close figuring, and liberal terms from manufacturers, we find we can fully keep up the character of our paper, and even improve it, and yet offer the large premiums named below. These articles are offered as direct pay for time spent in canvassing for names. This year we make no distinction between new and old subscribers, though it is supposed that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bills, needed by canvassers, will be freely furnished. We have a very attractive show bill for 1861.

Only one premium can be paid on the same subscriber.

Every person collecting names for premiums, can send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent, one of them marked at the top, "For premiums," also with the name of the sender. These duplicate lists will be kept on file by themselves, to be referred to in making up the premium when any person has completed sending in names for Volume XX.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, out-spoken, and reliable, the special friend, advocate, and promoter of the farmer's interest, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in volume twenty, than in any preceding one. Onward, upward, is our motto.

Premiums A, to J, are offered for subscribers at the lowest club price (80c.), or at the regular price (\$1). Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$15 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of fifteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$15.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of *Willcox & Gibbs' \$35 Sewing Machines*, including a set of *Hemmers*. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.)

The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each,) will entitle the person getting up the club to one of the *Now \$10 Wringing Machines*, described on page 247 of the *August Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the *August Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 25 at \$1 each,) will entitle the person getting up the club to one of the best \$8 *Straw and Hay Cutters*. [If preferred, the best \$3 *Subsoil Plow* (two-horse) will be given.]

Premium G.

42 Subscribers at 80 cents each, (or 19 at \$1 each,) will entitle the person getting up the club to the new and enlarged \$6½ *Pictorial Edition of Webster's Unabridged Dictionary*. This standard work comprises 1748 large 3-column pages. It is not only an ornament to every house, but is of great practical use; and its full definitions place it next to the *Cyclopaedia* as a source of general information. It weighs 8½ lbs., and can go by express; or be sent by mail for 1 cent per ounce within 3000 miles, or 2 cents per ounce over 3000 miles.

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best \$3½ *Hand Corn Shellers*—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post paid.

Premium J.

25 Subscribers at 80 cents each, (or 13 at \$1 each,) will entitle the person getting up the club to a *Pocket Microscope* with the celebrated "bourglass," or Coddington lens, in a solid silver case. Sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post paid. 20 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cents each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Windsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 81 cents for the extra postage required above the 6 cents per ounce which we pay. This and the next premium, if sent with our box of seeds going to California in February, can go without the extra postage.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each (or 125 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the

members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or 105 at \$1 each) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$60 Melodeons (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or 90 at \$1 each), will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$45 Melodeons (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) to the amount of 12½ cents for each name forwarded at 50 cents, (or 3½ cents for each name sent at \$1), and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Clubs.

Can at any time be increased, by remitting for each addition, the price paid by the original members—provided the subscriptions all date back to the same starting point. The back numbers will, of course, be sent to added names.

A Capital Present.

A year's subscription to the *American Agriculturist*. Every successive number is a fresh present. It is a good way to do a favor to distant relatives and friends, as well as to friends and neighbors near at hand.

Please Remember the German Edition.

We are publishing, at a good deal of expense, a complete edition of the *Agriculturist* in the GERMAN Language, every way equal to the English Edition. Will our friends please remind their German neighbors of the fact.

Missing Numbers Supplied.

Any copy of the *Agriculturist*, failing to reach a subscriber through carelessness of the mails will be cheerfully replaced without charge. Copies received, and afterwards lost or spoiled, will be supplied at the regular rates.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Wednesday, Dec. 19, 1860.

The political excitement, and the consequent financial disturbance, have materially affected the markets for Breadstuffs, and farm produce generally, in common with all other business. There is an abundance of flour, wheat and corn in the country, and a large demand for them abroad, but the difficulty has been to obtain the requisite funds or credit to move them. In the usual course of trade, exporters send breadstuffs, cotton, &c., abroad, and draw 60-day drafts upon the proceeds. These drafts, constituting foreign exchange, are sold to importers of foreign goods, and the proceeds used in paying for the crops brought from the interior. Owing partly to the disturbances resulting from a senseless fright or panic, and partly to the fact that our exports have exceeded the imports, and thus brought England in debt to us, it has been next to impossible to sell the exchange, or drafts. This has of course crippled the dealers here, and stopped their purchases from producers, who in turn have been unable to pay their home merchants, and they have of course been prevented from paying their indebtedness to the City importers and jobbers, and these last have been compelled to diminish their foreign orders for goods, reducing still further their ability to purchase exchange. The whole business, thus connected by a continuous chain, is weakened by a defect in any one of its links. The dead lock is now being loosened by the forwarding of gold from England to purchase breadstuffs, cotton, etc., and business is reviving somewhat. From the above causes, the movements in breadstuffs have not been active during the month. Holders have been forced to sell their stocks of flour, wheat, corn, and cotton, at whatever prices they could get, to raise the means to meet their liabilities in the West and South, for which they had accepted drafts drawn by the country dealers. This pressure to sell has depressed prices; and in some cases the loss has been so severe that dealers have been seriously crippled, and two or three leading houses, and several smaller ones, have suspended payment. The better feeling now springing up, induced by large receipts of foreign gold, and by the fact that people are getting used to the panic, and are caring less for it, is having a favorable effect upon the markets, and prices are looking upward. Holders are not anxious to sell. The fact that Great Britain must yet draw largely upon us for food, and send gold to pay for it, will cause our dealers to hold firmly for better prices,

especially as no very great supplies can be received from the West until Spring navigation opens. The operation of the "panic" checked the receipts even before canal navigation closed, and only small lots have since come forward by railroad. The stocks here are pretty large, but the demand for Eastern consumption and for export will soon reduce them; and if the political excitement shall in a measure cease, high prices are likely to prevail here before Spring. This will lead to the forwarding of grain, flour and corn somewhat earlier by the railroads. On the whole, though the delay, loss, and present embarrassment are great, we can read no gloomy indications for farmers in the future. There is just as much money, and as much produce, and as great a foreign want of it, as before the great "scare," and things will right themselves ere long. The present prices—which are better than a week since, and those current a month ago, are indicated in the table below.

CURRENT WHOLESALE PRICES.

	Nov. 17.	Dec. 19.
Flour—Superior to Extra State.	\$5 15 @ 5 60	\$4 65 @ 5 15
Superior Western.	5 15 @ 5 25	4 60 @ 5 15
Extra Western.	5 40 @ 5 25	5 00 @ 5 00
Fancy to Extra Genesee.	5 60 @ 7 25	5 20 @ 7 00
Super. to Extra Southern.	5 50 @ 7 50	4 90 @ 7 00
Rye Flour—Fine and Super.	3 50 @ 4 25	3 20 @ 4 00
Corn Meal.	3 30 @ 3 70	3 00 @ 3 40
Wheat—Canada White.	1 40 @ 1 45	1 25 @ 1 30
Western White.	1 37½ @ 1 40	1 27 @ 1 30
Southern White.	1 12½ @ 1 15	1 00 @ 1 40
All kinds of Red.	1 15 @ 1 35	1 05 @ 1 20
Corn—Yellow.	72 @ 80	64 @ 66
White.	72 @ 80	65 @ 68
Mixed.	69½ @ 71	62 @ 64
Oats—Western.	37 @ 37½	37 @ 38
State.	37½ @ 38	38 @ 38½
Southern.	36 @ 37	35 @ 37
Rye.	70 @ 72	68 @ 70
Barley.	65 @ 80	70 @ 82
Hay, in bales, per 100 lbs.	80 @ 1 06½	75 @ 1 00
Cotton—Middling, per lb.	11½ @ 11½	10½ @ 10½
Rice, per 100 lbs.	4 00 @ 4 75	2 50 @ 3 75
Hops, crop of 1860, per lb.	18 @ 18	16 @ 16
Pork—New Mess, per bbl.	18 25 @ 18 50	16 00 @ 16 00
Prime, new, per bbl.	12 50 @ 12 50	11 50 @ 11 75
Beef—Repacked mess.	7 00 @ 10 00	9 25 @ 10 00
Country mess.	5 00 @ 5 50	5 00 @ 5 25
Lard, in bbls, per lb.	12 @ 12½	9½ @ 10½
Butter—Western, per lb.	11 @ 15	10 @ 15
Cheese, per lb.	9 @ 20	12 @ 20
Chickens, per pair.	12 @ 14	9 @ 11
Eggs—Fresh, per dozen.	20 @ 21	21 @ 25
Western, per doz.	16 @ 19	18 @ 22
Poultry—Fowls, per lb.	10 @ 14	7 @ 12
Chickens, per pair.	50 @ 56	9 @ 12
Geese, per lb.	8 @ 10	6 @ 10
Ducks, per lb.	12 @ 14	10 @ 12
Turkeys, per lb.	11 @ 14	10 @ 12
Partridges, per pair.	62 @ 68	50 @ 62
Feathers, Live Geese, p. lb.	45 @ 53	44 @ 50
Seed—Clover, per lb.	9½ @ 10½	7½ @ 8½
Timothy, per bushel.	2 75 @ 2 75	2 50 @ 2 75
Sugar—Brown, per lb.	40 @ 45	44½ @ 7½
Molasses, New Orleans, p. gal.	11½ @ 12½	30 @ 35
Coffee, Rio, per lb.	12 @ 13½	12 @ 13
Tobacco—Kentucky, &c, p. lb.	3 @ 13	25 @ 33
Seed Leaf, per lb.	6 @ 25	5 @ 25
Wool—Domestic fleece, p. lb.	34 @ 58	32½ @ 57½
Domestic, pulled, per lb.	23 @ 46	27½ @ 45
Hemp—Underd Am., per tun.	150 @ 160	145 @ 160
Dressed American, per tun.	190 @ 230	185 @ 215
Tallow, per lb.	10½ @ 10½	9 @ 9½
Oil—Coke, per tun.	33 00 @ 39 00	28 00 @ 36 00
Apples, Prime, per bbl.	1 75 @ 2 00	1 50 @ 2 00
Medium, per bbl.	1 50 @ 1 50	1 25 @ 1 50
Common, per bbl.	75 @ 1 00	50 @ 1 00
Extra Dessert Apples.	3½ @ 5	2 50 @ 3 00
Dried Apples, per lb.	10 @ 13	8 @ 12½
Dried Peaches, per lb.	1 25 @ 2 00	2 00 @ 2 50
Potatoes—Mercers, per bbl.	1 25 @ 1 50	1 75 @ 2 25
Peach Blows, per bbl.	3 00 @ 3 25	3 25 @ 3 50
Sweet, Virginia, per bbl.	3 00 @ 3 50	3 50 @ 4 00
Delaware and N. Jersey, per bbl.	1 25 @ 1 88	1 75 @ 2 12
Onions, Red, per bbl.	2 00 @ 2 50	2 50 @ 3 50
White, per bbl.	63 @ 1 00	75 @ 1 12
Turnips, per bbl.	3 50 @ 5 00	4 00 @ 5 00
Cabbages, per bbl.	75 @ 87	1 50 @ 2 00
Squashes, per bbl.	4 00 @ 5 00	6 00 @ 12 00
Pumpkins, per 100.	10 @ 12 00	10 @ 12 00
Cranberries, Eastern, per bbl.	7 00 @ 10 00	8 00 @ 10 00
Western, per bbl.	5 00 @ 7 00	75 @ 1 00
Celery, per dozen.	7 00 @ 10 00	8 00 @ 10 00

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour, Wheat.	Corn.	Rye.	Barley.	Oats.
25 days this month	489,809	3,691,500	773,000	14,120	167,800
25 days last month	553,508	3,827,854	910,361	36,125	429,019
SALES.	Flour, Wheat.	Corn.	Rye.	Barley.	Oats.
25 days this mon.	325,000	1,752,000	1,240,000	23,150	342,000
25 days last mon.	503,310	4,267,500	2,147,500	115,400	634,700
Exports of Breadstuffs from New York, Jan. 1 to Dec. 12.					
Wheat Flour, bbls.	836,970				1,761,704
Rye Flour, bbls.	5,608				7,800
Corn Meal, bbls.	75,670				85,916
Wheat, bush.	202,026				12,204,003
Corn, bush.	179,929				3,249,713

The receipts at tide-water of the principal kinds of Breadstuffs from the opening of the Canals to and including the 7th of December, have been as follows:

	1860.	1859.	1858.
Canal open.	April 25.	April 15.	April 28.
Flour bbls.	1,175,100	1,008,206	1,560,200
Wheat, bush.	19,557,400	5,110,533	8,232,700
Corn, bush.	14,290,800	2,446,307	6,697,700
Barley, bush.	2,871,600	3,305,279	3,422,200
Rye, bush.	336,600	392,700	507,600
Oats, bush.	6,717,600	6,403,400	5,127,100

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been less crowded for two weeks past, and prices have advanced moderately. During five weeks ending to-day (Dec. 19), the receipts have been 23,748 or 4,750 per week, against over 5,000 per week, for the previous month. Much of the stock has been poor, and sold at low rates. At to-day's general market, with 4,479 bullocks on sale, many of which were of prime quality, designed for Christmas show beef, sales were pretty brisk at

11c. @ 12½c. per lb., dressed weight, for extra or premium beeves—9½c. @ 10c. for first quality—7½c. @ 8½c. for fair to good—5c. @ 7c. for poor—Average 8c.

VEAL CALVES.—Receipts have been light, numbering only 2,579 for the past five weeks, or 516 per week. Prices are low, however, very few calves bringing 7c. per lb., live weight; most go at 5c. @ 6½c.

SHEEP AND LAMBS have come in moderately, the receipts for the past five weeks being but 49,269, or a weekly average of 9,864, against over 13,000 last month. The lack in numbers is made up, in part, by extra size and fatness, especially this week of Christmas mutton. One lot of 100 head has just been sold at \$925, or about 7c. per lb. live weight; 14 head averaging 20 lbs. alive, sold for \$18 each, while single animals are reported at \$25, and even \$33 per head. Of course they were very large and very fat, such as are only seen Christmas week. Fair lots of sheep which will dress 60 lbs., are worth 5c. @ 5½c. per lb. live weight. The market is quite brisk just now.

LIVE HOGS.—Receipts since our last report amount to 65,030, or 12,606 per week. The market is overstocked just now, over 15,000 having been received during the past week. Packers take most of them at 4½c. @ 5½c. per lb. live weight for corn fed, and 4½c. @ 4¾c. for still hogs, which is fully 1c. per lb. lower than last reported.

The Weather, since our last report, has generally been fine, with a gradual hardening into genuine Winter. Little snow has fallen just here, thus far.—Our DAILY WEATHER NOTES, condensed, read thus: November, 20, 21, 22, clear, fine, cool—23, rainy day—24, clear, cool—25, cold, mercury, 15°—26, clear and cool, rain at night—27, rain A. M., cloudy P. M.—28, cloudy, rain at night—29, fine—30, rain.—December, 1, cloudy, snow at night—2, cool and cloudy, ground white with snow, but soon disappeared—3, clear, fine—4, snow and rain—5, clear, 2 inches snow, making poor sleighing for a short time—6, clear and fine—7, cloudy—8, snow storm A. M., cloudy P. M., 4 inches snow on ground, and fair sleighing—9, clear, fine, cool—10, cloudy A. M., rain P. M., and at night, carrying off most of the snow—11, to 14, clear and cool—15, coldest day of the season, mercury 10°—16, 17, 18, clear and fine, milder but still cold—19, cold rain.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—Indicates rain, s, snow.]

NOVEMBER.									
1.....61r	7.....39	13.....45	19.....44r	25.....18					
2.....6	8.....38	14.....41	20.....43	26.....24					
3.....62r	9.....40r	15.....41	21.....35	27.....48r					
4.....54	10.....51r	16.....40	22.....30	28.....39					
5.....42r	11.....46r	17.....42	23.....42r	29.....29					
6.....52r	12.....45r	18.....46r	24.....44r	30.....39r					
DECEMBER.									
1.....38s	4.....34s	7.....32	10.....32s	13.....34					
2.....30	5.....28	8.....33s	11.....36	14.....16					
3.....32	6.....29	9.....23	12.....28	15.....12					

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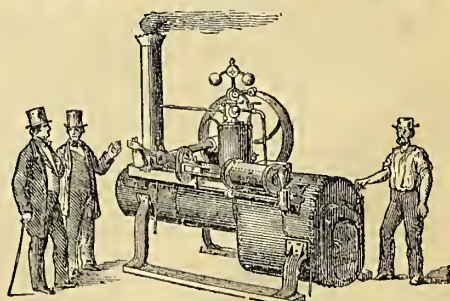
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Eaton, N. Y.

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PROSPECTUS.

THE WEEKLY TRIBUNE is now in its XXth Volume.

During the past year, THE TRIBUNE has been obliged, to devote a large proportion of its space to Politics, but we shall henceforth be able to limit our space devoted to Political discussion, and devote most of our columns to subjects of less intense, but more abiding, interest. Among these, we mean to pay especial attention to

I. EDUCATION.—The whole subject of Education, both Popular and General, will be discussed in our columns throughout the year 1861, and we hope to enlist in that discussion some of the profoundest thinkers and the ablest instructors in our country. It is at once our hope and our resolve that the cause of Education shall receive an impetus from the exertions of THE TRIBUNE in its behalf during the year 1861.

II. AGRICULTURE.—We have been compelled to restrict our excursions of this great interest throughout 1860, and shall endeavor to atone therefor in 1861. Whatever discovery, deduction, demonstration, is calculated to render the reward of labor devoted to cultivation more ample or more certain, shall receive prompt and full attention.

III. MANUFACTURES, &c.—We hail every invention or enterprise whereby American Capital and Labor are attracted to and advantageously employed in any department of Manufacturing or Mechanical Industry, as a real contribution to the Public Weal, insuring a more steady, more convenient, more remunerating markets to the Farmer, with fuller employment and better wages to the Laborer. The progress of Mining, Iron-making, Steel-making, Cloth-weaving, &c., &c., in our country and the world, shall be watched and reported by us with an earnest and active sympathy.

IV. FOREIGN AFFAIRS.—We employ the best correspondents in London, Paris, Turin, Berlin, and other European capitals, to transmit us early and accurate advices of the great changes there silently but certainly preparing. In spite of the pressure of Domestic Politics, our News from the Old World is now varied and ample; but we shall have to render it more perfect during the eventful year just before us.

V. HOME NEWS.—We employ regular paid correspondents in California, at the Isthmus of Darien, in the Rocky Mountain Gold Region, and wherever else their services are requisite. From the more accessible portions of our own country, we derive our information mainly from the multitudes of correspondents of the Associated Press, from our exchanges, and the occasional letters of intelligent friends. We aim to print the cheapest general newspaper, with the fullest and most authentic summary of useful intelligence, that is anywhere afforded. Hoping to "make each day a critic on the last," and print a better and better paper from year to year, as our means are steadily enlarged through the generous co-operation of our many well-wishers, we solicit, and shall labor to deserve, a continuance of public favor.

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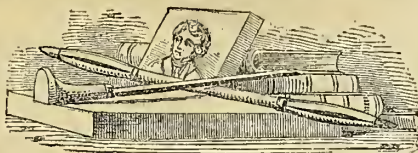
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Contents for January, 1861.

American Agriculturist—How to Preserve files.....	6
American Agriculturist—Thoughts on Commencing the Twentieth Volume.....	1
Animals—Comfort Necessary to Thrift.....	16
Animals—How Shelter Saves Food.....	14
Apples—Dish of Good Sorts.....	18
Barreling Fruit—Contrivance for.....	2 Illustrations.. 9
Barrels—Musty—How to Cleanse.....	6
Basket Items—500 Wanted.....	25
Bees—Apiary in January.....	3
Bees—Honey from Pine and Oak Trees.....	13
Bees—Sagacity of Humble Bees.....	14
Bees—Senses of—Curious Structure of their Wings.....	14
Beets—Sugar—Abuse of.....	12
Birds—Familiar and Useful Hints—Snow Bird. <i>Illus.</i>	13
Boiler—A Cheap.....	10
Books—American Herd—Pronouncing Bible—Central Park—Old Mackinaw—Am. Cyclopædia, Vol. XI.....	26
Books—Grape and Hedge.....	26
Boys' and Girls' Columns—Editor with his Young Readers—A Happy New Year—Trick that did not Pay—Uncle John's Study, No. II.—Problems—The "Digger Indians of California" 4 Illustrations.....	23-24
Butter too Good for Market.....	13
CALENDAR OF OPERATIONS FOR THE MONTH.....	2
California Farm.....	25
Carrot Culture.....	25
Carrots—How much are they worth for Feeding?.....	11
Cellars—Jack Frost in.....	17
Churns—Puff for two.....	10
Cooking Hints—Chicken Pie—Boned Turkey—Delicious Pudding—Cottage Pudding—Flour Pudding—New Year's Cake—Ginger Snaps—Jumbles without Eggs—Cracker Mince Pie—Cream Pies.....	22
Corn—Frozen Seed.....	6
Corn—Humbags—Egyptian and Chinese Tree.....	25
Corn—Tall, and a Great Deal of it.....	25
Cosmopolitan Art Association.....	26
Crochet Work—Elementary Instructions—Woolen Undersleeve.....	3 Illustrations.. 20
Dahlias, etc.—Look to.....	19
Dogs—Costly—Heavy Tax.....	17-25
Digging Match.....	6
Draining—Extensive.....	3
Exhibition—Our Tables during December.....	3
Farm Scenes—Winter— <i>Illustration</i> by Darley.....	16
Farm Work in January.....	2
Farmer the True Aristocrat.....	6
Farmers' Club—Keep it up.....	17
Feeding Rack—Portable, wire.....	Illustrated.. 9
Fences—Wire.....	Illustrated.. 9
Files—For Papers.....	26
Flower Baskets—Rustic.....	3 Illustrations.. 20
Flower Garden and Lawn in January.....	2
Flowers—Cactus—Pin-cushion.....	19
Flowers—Chinese Chrysanthemums—Best Sorts.....	25
Flowers—Sketches of—Standing Cypress.....	25
Flowers—Wilmer's Laura Pink.....	20
Frozen Plants—How to Treat.....	18
Fruits Grown in Bottles.....	Illustrated.. 19
Fruits—How to Judge of.....	19
Garden—Draining Beneficial.....	25
Garden—Kansas.....	25
Garden, Kitchen and Fruit in January.....	2
Gardeners' Wages.....	25
Grapes for the North.....	25
Grapes—The Newer.....	19
Grapes—Wild Texas.....	25
Grass—New—From California.....	25
Grass—Pampas.....	Illustrated.. 12
Grasses—Dried—Preparing.....	25
Green and Hot-houses in January.....	2
Holy Land—Items from.....	18
Horses—Aged.....	25
Humbags—What they are Doing—Gift Enterprises—A Charming Home—Lotteries, etc.....	6-7
Husking Peg—Simple.....	9
Indians—"Digger" of California.....	2 Illustrations.. 24
Insects from Illinois.....	25
Insects—Grub Worms Destructive.....	25
Insects—Seventeen Year Locusts.....	26
Ivy—Poison.....	25
Land Sale of the Right Sort.....	6
Lands—Cheap in the Old States.....	25
Lantern Blinks—XXIV—Diogenes Redivivus in Search of a Farmer's Wife.....	21
Leather from Alligator's Skin.....	10
Line Questions to be Answered.....	11
Liming Lands—Hints Given, more Wanted.....	10
Manure—Street Scrapings for.....	10
Market Review, Weather Notes, etc.....	28
Mowing Machine Attachment.....	10
Orchard and Nursery in January.....	2
Oxen—How to Throw.....	16
Paints—Mixing, Book Wanted.....	25
Paper—Can't do without it.....	14
Paper from Corn Husks and Leaves.....	10
Paper—Too Poor to take it.....	14
Peaches—Better.....	25
Pics—Those Cream—Erratum.....	25
Plow—Fawkes' Steam.....	8
Potato-Man—How Mr. Jones Tilled his Land.....	8
Potatoes and Manure.....	26
Potatoes—Cut for Seed.....	6
Potatoes—Profitable Experiments with.....	11
Poultry—A Lady's Experiment with.....	12
Premiums for 1861.....	27
Puzzle—Pomological.....	Illustrated.. 18
Rarely Returned.....	26
Rats Afraid of Powder.....	15
Salt—Why Animals Need it.....	16
Seed List—Descriptive Notes on those Distributed.....	3-4-5
Seeds—Germination of—Aiding.....	5
Shrub—Muzannetta.....	25
Snow—Uses of.....	17
Sorghum at the West.....	25
Squash—Mammoth Leghorn.....	25
Stack Shed.....	8
Sugar Estates of Cuba.....	6
Tim Bunker on Cattle Disease.....	15
Turnips—Large Yield.....	12
Trees—Inducing Fruit-bearing.....	25

Trees—Long Leaf Pine.....	25
Trees—Quince Stocks—Distinguishing.....	25
Umbrellas—Taking Care of them.....	21
Washing Hands—Hints on.....	21
Water for Stock.....	17-25
Water from Springs.....	25
Wheat—Extraordinary Yield.....	13
Witty Reply—Which was "Sold?".....	6
Yale Agricultural Lectures.....	26

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Every subscriber can think of several neighbors who would be really benefited by the perusal of the *Agriculturist*—much more than the small cost. Please talk the matter over with them, and invite them to try the paper for a year. A double favor will thus be conferred—one upon the recipient, and one upon the publisher.

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In some respects the times are hard, but less than two cents a week will pay for the *Agriculturist*, and the paper will help to make the times easier, by suggesting many hints for improving the yield of your fields and gardens.

Lectures at One Cent Each.

Twenty-five cents are usually paid for admittance to an evening lecture. The *Agriculturist* for 1861 will contain more than one hundred valuable lectures on practical topics relating to every day operations on the farm, in the garden, and in the household—and these will be as good as some at least, of those delivered before Lyceums. Please invite your neighbors to subscribe to a course of lectures.

Please Make it Two Miles.

The papers received during a year by a club of ten subscribers to the *Agriculturist*, when piled up, reach about a foot high. If, then, all the copies sent to 100,000 subscribers were piled together, the heap would extend upward, ten thousand feet, or nearly two miles. Friend, can't you add a foot or two, or at least an inch or two, in your neighborhood, and help to make it plump two miles?

15,000 Miles of Paper.

Every copy of the *Agriculturist* contains two sheets, each 2 feet 2 inches wide, and 3¼ feet long. Lay these sheets end to end, and each subscriber's papers for a year will extend 78 feet. The papers for 100,000 subscribers would extend very nearly 15,000 miles. Please ask your neighbor to add a length of 78 feet, 2 feet wide, and all covered with good reading matter. He can get such a piece for \$1; or for 80 cents, if he joins a club of 10 or more already formed, or if he gets up a new club.

14,384 Thoughts.

According to the calculation above, the surface of a single volume of the *Agriculturist* contains 14,384 square inches. If then there should be only one thought expressed on each square inch of the paper, the "sum total" of the thoughts printed in a single volume would amount to *Forty-eight Thousand Three Hundred and Eighty-four*! Please mention the matter to a neighbor or two, and ask them if it will not pay to invest a dollar.

The Seeds.

After looking over our list of seeds on page 5, and reading the preceding description of the various kinds, please mention the matter to a neighbor, and ask him (or her) if they are not worth subscribing for, to say nothing of the value of the paper. A subscriber, in a letter just at hand, says he has threshed 78 bushels of splendid oats, all produced from a little letter parcel received free from the *Agriculturist* office three years ago. Please mention this to a neighbor, or two, or more.

Premiums without Money.

See the list of premiums on page 27. There is plenty of time yet to get up a club, and secure one of these valuable premiums. You need not mention this to your neighbors, but get them to subscribe, and thus secure the premium for yourself.

Heavy Discount on Money.

Just now, the bills on Banks in the different States are charged the following rates of discount in this City, viz: Ill., Wis., Iowa, Mo., 12 to 15 cents on the dollar—N. C., S. C., Va., Tenn., 7 c. to 9 c.—Ala., Md., interior Pa., free Indiana, 4 c. to 5 c.—Ohio, Indiana State Bank, Ky., West Jersey, Philadelphia, 2½ c. to 3 c.—Canada and Mich., 1½ to 2 cent.—N. Y., East Jersey, and New-England, ¼ c.—Gold, Drafts on N. Y. City banks, and 3-cent Postage Stamps are, of course, *par*.—We hope, the discount will soon be much lower, and do not refuse bills on any bank in good credit at home, but our friends will, we are sure, send us the best bills they can get. P. O. Stamps are good. Drafts on N. Y. City banks are always preferable, and at least half the discount may always be deducted from any amount forwarded.

ALMANAC FOR 1861.

1861.	Sunday.	Monday.	Tue day.	Wednes.	Thursd.	Friday.	Saturday.	1861.	Sunday.	Monday.	Tuesday.	Wednes.	Thursd.	Friday.	Saturday.
JAN.	6	7	8	9	10	11	12	JULY.	7	8	9	10	11	12	13
	13	14	15	16	17	18	19		14	15	16	17	18	19	20
	20	21	22	23	24	25	26		21	22	23	24	25	26	27
FEB.	3	4	5	6	7	8	9	AUG.	4	5	6	7	8	9	10
	10	11	12	13	14	15	16		11	12	13	14	15	16	17
	17	18	19	20	21	22	23		18	19	20	21	22	23	24
	24	25	26	27	28	29	30		25	26	27	28	29	30	31
MARCH.	3	4	5	6	7	8	9	SEPT.	1	2	3	4	5	6	7
	10	11	12	13	14	15	16		8	9	10	11	12	13	14
	17	18	19	20	21	22	23		15	16	17	18	19	20	21
	24	25	26	27	28	29	30		22	23	24	25	26	27	28
APRIL.	1	2	3	4	5	6	7	OCT.	29	30	31	1	2	3	4
	8	9	10	11	12	13	14		6	7	8	9	10	11	12
	15	16	17	18	19	20	21		13	14	15	16	17	18	19
	22	23	24	25	26	27	28		20	21	22	23	24	25	26
MAY.	1	2	3	4	5	6	7	NOV.	27	28	29	30	31	1	2
	8	9	10	11	12	13	14		3	4	5	6	7	8	9
	15	16	17	18	19	20	21		10	11	12	13	14	15	16
	22	23	24	25	26	27	28		17	18	19	20	21	22	23
JUNE.	2	3	4	5	6	7	8	DEC.	24	25	26	27	28	29	30
	9	10	11	12	13	14	15		1	2	3	4	5	6	7
	16	17	18	19	20	21	22		8	9	10	11	12	13	14
	23	24	25	26	27	28	29		15	16	17	18	19	20	21
	30	31	—	—	—	—	—		22	23	24	25	26	27	28
									29	30	31	—	—	—	—

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ORANGE JUDD, 41 Park-Row, New York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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ORANGE JUDD, A.M.,
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February.

Be then the swain advised to shield his flocks
From Winter's deadening frosts, and whelming snows;
Let the loud tempest rattle on the roof,
While they, secure within, warm cribs enjoy,
And swell their fleeces, equal to the worth
Of clothed Apulian, by soft warmth improved
Or let them inward heat or vigor find
By food of cole or turnip, hardy plants.
Besides, the lock of one continued growth
Imbibes a clearer and more equal dye."

DYER'S "FLEECE."

One of the most delightful duties of the husbandman at this season, is the care of his domestic animals. All Summer they have gone forth at will, cropping their food in green pastures, in a measure independent of man. The sheep, after yielding their annual fleeces, and receiving their marks, are driven to the most distant pastures, often upon the mountain and hill sides, where the owner rarely sees them. The young cattle and swine, in many parts of the land, run at large, and it is only when the Winter snows begin to rob the earth, that they seek the protection of man. Now they need the stores of food and the shelter, which the farmer has provided for them. As they minister to his wants, yielding milk, butter, cheese, and flesh for his table, down for his bed,

and warm clothing for his person, it is meet that he should study their wants, and minister to their comfort. This is the design of the kind Providence that has peopled the earth with living creatures, and made them mutually helpful and dependent. There is substantial truth in the lines of Pope:

"The bounding steed you pompously bestride,
Shares with his lord the pleasure and the pride.
Is thine alone the seed that strews the plain?
The birds of heaven shall vindicate their grain.
Thine the full harvest of the golden year?
Part pays, and justly, the deserving steer.
The hog that plows not, nor obeys thy call,
Lives on the labors of this lord of all.
Know, nature's children all divide her care.
The fur that warms a monarch, warmed a bear
While man exclaims, "See all things for my use!"
"See man for mine," replies the pampered goose;
And just as short of reason he must fall,
Who thinks all made for one, not one for all.

The gladdest hour of the day in the farm-yard is that of the early morning, when the farmer comes forth to feed his flocks. His work is well nigh done, in these short days, before the sun makes his appearance above the eastern hills. The fresh fallen snow, it may be, lies upon the ground. Old chanticleer and his harem of beauties, after long crowing and cackling to get their courage up, come dropping down into the snow. They do not relish the earth's new carpet. It bodes no good to them; for grub, and grass, on which they have feasted in the long Summer days, are buried from sight. The geese and ducks come forth from the sheds, and run their bills in the snow, with obstreperous quacking, in expression of their astonishment at the new element, which is neither land nor water. The old gander looks down with dignified contempt upon the article. He can neither walk nor swim in it. He can not drink it, and as for eating, it is very much like cold victuals. The old turkey gobbles out his dissatisfaction, and though with his long legs he can walk better than his neighbors, he beats an early retreat under the shed to warm his toes. The snow is voted a bore by the whole feathered tribe, and the loud cry of the company, as they greet the mistress of the mansion, is, "hot potatoes and corn." They will doubtless get it, with a little of the butcher's offal to promote the laying of eggs.

There is no mistaking the bleating of the sheep, as they hear the opening of the yard gate in the morning. They are accustomed to these morning visits of the shepherd, and salute him as they rise from their strawy couches, and crowd around him. He receives a like salutation, as he opens the doors of the stalls, and looks in upon the oxen and cows. "The ox knoweth his owner," and there is a well defined communion between man and these creatures of his care. They can be made to understand his wishes, and, in some measure, to appreciate his kindness. The gulls of Holyhead, on the coast of Wales, crowd around the

keeper of the lighthouse, as tame as doves, though they are elsewhere the wildest of sea birds. They are there fed and protected, and never hear the firing of guns. Every visitor, who passes through the parks of Philadelphia, notices the gray squirrels, that come down from the trees, and take nuts and fruits from the hands of children, as familiarly as household pets. These facts are indications of the capabilities of animals for domestication. Their training doubtless can be carried to much greater perfection, than is commonly supposed to be possible. The power of kindness over them is very great, and it is essential to their perfect subjugation, and to their highest usefulness to man. Even the horse that can be ridden and driven, becomes almost another creature under the discipline of Rarey. He adapts himself so perfectly to the motions of his rider, obeying the slightest indication of his will, communicated by rein or spur, by look or tones of the voice, that he seems almost gifted with human intelligence. We sometimes meet with a teamster who has carried the training of oxen to a like perfection. He may carry a whip, but it is never used to lacerate the skin. There is no bluster or loud hallooing, and yet he will get from his yoke of cattle the full exertion of their strength. They seem to understand the English of every movement of his whip, though it does not touch them. There are milkers that would as soon think of striking their mothers with a stool, as the cows whose udders they draw. They go about the yard with a quiet step, and as they take their seat upon the milking stool, the cows do not even stop chewing the cud. The right leg is put back for the convenience of the milker at the slightest touch. They express in their dumb way their satisfaction at his presence. There are shepherds who know every sheep in the flock by some peculiarity of expression, though they all look alike to a stranger. "The sheep know his voice and follow him."

Now all this is admirable, and shows what may be done in the way of training. How much better is this, than the scenes so often witnessed in the farm yard, and in the field, horses beaten till their eyes are knocked out, or otherwise maimed, oxen pounded with sled stakes over the head until blood runs from the nostrils, and cows mauled with a stool, until they are taught to kick at the slightest movement of the milker. This cruelty operates very much against the thrift of the animals. Whether the aim be to make flesh or milk, the more quiet the animal can be kept the better. They are affected very much as men are, by what may be termed moral causes. Their digestion and rumination are disturbed by any undue excitement. This affects the assimilation of the food, and the formation of flesh or of milk.

The influence of the abuse of animals whether by neglect or by punishment, is even worse for man than it is for the brute. It cultivates the

irascible and malignant passions, and makes him fiendish. The care of these creatures, on the contrary, ought to be made a source of pleasure and of moral improvement. We ought for our own sakes, if from no higher consideration, to practice self restraint and kindness, in our intercourse with them. To kick, even a sheep, in anger, may inflict a fouler blow upon a man's moral nature. To repress wrath when tempted, and to cast out the devil of ugliness, is to gain a moral triumph, though the scene of the victory be among brutes. Paul fighting with beasts at Ephesus was no more a saint and hero than the man who conquers himself, while he subdues the fierce tempers and blind instincts of the creatures over which he is made lord. Such a victory is not only money in the purse, by the quiet and thrift it secures among the flocks and herds, but it is the fine gold in character, which is the end of all our earthly labors.

Calendar of Operations for Feb., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the advance later for the North.

This department is much fuller in the working season, embracing all the operations of the farm, garden, etc.

EXPLANATIONS.—*f* indicates first; *m*, the middle; and *l*, the last of the month.—*Do* gives particular directions; *ff*, or *mm*, two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

Winter yet holds sway at the North, though, thus far, its reign has been less severe than is often experienced. A short hay crop has, in previous years, often been followed by the compensation of a mild Winter, yet many always suffer loss for want of sufficient fodder to winter stock properly. Much may be saved by providing warm shelter, as was fully argued last month; and those who have, in addition, a good stock of roots to draw upon now, find the benefit of the provision. Let those who are inconvenienced by short supplies at this time, make a note of it, and guard against like trouble in future.

Barns and Stables—Keep out the wind and storms, but provide sufficient ventilation to carry off all effluvia. The odors arising from excretions, if confined, make the atmosphere unwholesome for animals, and impart a taint to their feed.

Cattle—Observe directions given last month. Keep breeding cows in wide roomy stalls, separate from other animals, as their time of calving approaches. Read articles on page 42, this No.

Cellars—Sort over potatoes, roots, apples, etc., and remove all decaying matter. If more apples were stored than are needed for family use, market them, or feed to stock. Examine pork and beef barrels; some may need new brine. Experiment with rats; see article "Stop the Rats" on page 44.

Clover Seed—Provide a supply of this for sowing upon the winter grain fields, as Spring approaches. A lot of clover for pasture is good; and the best and cheapest manure is a tall growth of clover plowed in.

Drains in the yards, by the roadsides, and in the fields, should be kept free from obstruction, as far as possible. Improve every thaw to attend to this. It is the expansion of water in the soil, and not of the soil itself, that rends the roots of plants, and winter-kills them.

Fencing—Add to the stock of materials if needed, and commence repairs as early as may be.

Fuel—Have a year's supply ready for the stove. Spring will bring work enough without this additional labor. Besides, dry fuel is best, and the cheapest. It always takes the heat of a portion of green wood to dry out the moisture from the rest.

Grain—Thresh, *ff*, any remaining, before more loss is suffered from rats and mice. Secure abundant supplies of good seed for Spring use.

Grain Fields—Keep all stock from feeding or trampling them.

Hired Men—Engage good trustworthy hands for the ensuing season. One or two dollars per month is a small matter compared with the loss and vexation caused by ignorant or careless help.

Hogs—Warm, cooked food is economical. Keep them in good appetite by occasional changes of diet. Give potatoes, meal, a little chopped hay steamed, refuse vegetables, etc., with grain and meal. Keep the pens clean and well littered with leaves or straw.

Horses—Follow directions given last month. Read article "Two Hours with Mr. Rarey" on a subsequent page.

Ice Houses—Fill, *ff*, if not completed. Secure proper drainage and ventilation.

Lime and Plaster—Get at least a few barrels of these home during Winter, to sow on your wheat in Spring, and upon the pasture fields and meadows. A strip sown through each field, will most likely show good results, or at least indicate whether a large expenditure for these fertilizers will or will not pay. See "Liming Land" on another page.

Manures—Make and save all possible. Cart out and deposit in heaps in the field in suitable weather. Fine compost may be advantageously applied to meadows now, thus securing an early and rapid growth in Spring; the surface will also be less cut by drawing it while the ground is frozen. Read articles on page 46, this No.

Maple Sugar.—Prepare necessary apparatus. Commence making as soon as the sap will flow. Shallow evaporating pans are best.

Poultry—Observe directions given last month. Guard against vermin by occasional fumigation of nesting places, and whitewashing the roosts. Remove the droppings to the manure heap, or mix with plaster, and reserve them for the garden or other choice plots.

Seed—Make ample provision for seed corn, spring wheat, oats, and whatever else will be needed. It is better done now, than in the hurry of Spring.

Sheep—Provide ample shelter separate from other stock. Keep them in good condition with roots or grain added to hay. Breeding ewes will bear stronger lambs and be less enfeebled thereby, if properly treated through the Winter.

Tools—Put all in complete repair. Procure improved implements for the coming season. On many farms one or two extra hands may be saved by introducing labor saving contrivances.

Orchard and Nursery.

Little can be done in this department until the ground is in order for transplanting. The earlier that operation can be commenced, the more favorable for the trees. Should a warm spell occur quite early, it will be well to keep choice fruit trees from too rapid vegetation, by shading the branches from the sun, and, if practicable, retaining snow about their roots. Thousands of trees have been destroyed by too early swelling of the buds, which were killed by succeeding frosts. This is, of course, not applicable on a large scale, but favorite trees and shrubs may be easily guarded.

If in early transplanting, trees are frozen, bury them root and branch in earth; they will sustain less injury if thawed gradually. Have every thing in readiness for Spring work in the nursery.

Clons will soon be needed. Procure choice sorts any time this month when not frozen. Label each sort distinctly and keep until wanted for grafting, in sand in the cellar.

Insects are more readily reached now than later in the season. Scrape the trunks and main limbs of trees infested with bark-lice, and scrub with moderately strong lye.

Manure—Draw out and spread under the trees as far as the roots extend. It is of less benefit, when all of it is applied directly around the trunks.

Pruning—Remove only dead wood and small snickers at this season: leave the main work until August or September.

Select from catalogues choice assortments of trees for transplanting as soon as the ground will permit. See article "Which are the Best Apples?" on page 49, this No.

Snow—Remove from the branches of living trees, before it splits them down. Now spread.

Stakes, labels, tallies, packing bags, mats, etc.—Have a good stock in readiness for Spring use during the busy season of nursery planting or sales.

Kitchen and Fruit Garden.

Spring work in the garden may be forwarded during this month by preparation of implements, seeds, etc. At the South, the seeds of early vegetables may be sown, and in this latitude hot-beds can be started the last of the month, for the earliest plantings of tomatoes, cabbages, lettuce, etc., for the first marketing. For family use it is better to defer this until March.

Cold Frames—Admit air during mild weather. Guard against sudden freezing, particularly when they are unprotected by a covering of snow. Spread over them mats or straw.

Cuttings of Currants, Gooseberries, etc., may be made whenever the wood is not frozen. Keep them covered with sand in the cellar.

Fences—Repair old, and make new where needed. Provide convenient gates and secure them with proper fastenings. Keep all well coated with paint; now is a good time to apply it.

Grape Vines—Prune, *ff*, if not done at the proper time in the Fall.

Manures—The best results are obtained when these are finely divided and intimately mixed with the soil. Provide abundance of stable manure composted with muck, gnanio, poultry droppings, night soil, etc. For fruit trees, leaves, or sawdust saturated with urine is an excellent application.

Prune Currants and Gooseberries if neglected until now; save the cuttings for propagation.

Rhubarb—For earliest use set a few roots in boxes and place them in the green-house, or a room where fire is kept. That in open ground can be hastened by covering with horse manure.

Seeds—Examine the list for free distribution from this office, printed on a subsequent page, and select desirable parcels. Procure and study catalogues of reliable seedsmen whose advertisements appear in the appropriate department. Test samples before purchasing largely. They are easily sprouted if good, by laying them on cotton in a dish of water kept in a warm place.

Tools—Provide a full supply of improved kinds, and repair old.

Trees and Vines—Cleanse from moss, insects, rough scaly bark, and wash with weak lye.

Trellises and Arbors—Provide for vines and trailing plants. Repair and paint all needing it. Neatness adds to the marketable value of any place.

Flower Garden and Lawn.

A snowy mantle still covers the northern gardens, and about the only care the grounds now require is to see that the evergreens and shrubs are not injured by an accumulation of snow upon their branches. If pruning has been neglected until this late season, it should be performed at once, during mild weather. Cuttings of roses, altheas, honeysuckles, and other shrubs, or climbers, for propagating in the Spring, may be taken while pruning.

In the Middle States, and further South, the swelling buds give evidence of approaching vegetation; and preparing the ground, spading, trenching, manuring, and in some cases, planting, are the order of the day. The ornamental trees and shrubbery, excepting evergreens, should be set out as soon as the ground will permit: they thrive better, especially the early flowering sorts, and it is also very desirable to have this work done before the hurry of the season comes on.

Hot-beds may be made for seeds of early

flowers, to hasten their blooming period, and to start the various cuttings. Many plants will strike in a moderately heated hot-bed which could not be made to grow in the open ground.

Green-Houses.

Little need be added to the directions of last month. Care will be required to maintain a temperature above the freezing point, but not higher than 50° unless it is desired to induce growth of the plants.

Keep a careful eye upon the insects, and apply the proper antidotes upon their first appearance.

Cuttings of many of the woody plants should now be made and potted. They will strike better if taken to the hot-house.

Prune into shape any plants needing it, and remove all decaying branches, dead leaves, weeds, and moss, keeping every thing neat and clean, with an atmosphere free from impurities.

Repotting will claim a full share of the manager's time this month, if the collection is large. Many of the plants may now be carried to the forcing apartments to hasten the blooming period.

Water—Increase the amount as the plants push into growth, but avoid an excess. Keep the drainage good.

Hot-House and Conservatory.

Many of the directions of last month are still seasonable. The frequency of change in the weather makes great watchfulness necessary to regulate the fires. From 70° to 80° of heat should be maintained. If snow falls, the roof should be cleared to admit the light which the rapidly growing plants now require. If from want of proper ventilation the condensed moisture gathers and drops upon the plants below, tin conductors should be suspended to collect and carry it off. Air must be given the plants frequently, but much care will be needed to prevent chilling drafts from striking directly upon the plants. Only the upper ventilators should be opened, and but slightly during severe weather. During mild days a general airing may be given.

Azaleas, now in bloom, should be watered freely. Moderate syringings will do them good, but the flowers will sooner decay if they are wet often.

Bedding Plants—Insert, cuttings and make layers for a good stock of Petunias, Pelargoniums, Verbenas, Dianthus, Candytuft, Pansies, Dicentras, Daisies, Salvias, etc., for early planting in the open border. The beauty of the flower garden is greatly increased by a good stock of bedding plants taken to the beds in full bloom at the opening of spring.

Bulbs—The early forcings should now be in bloom, and others in a good degree of forwardness. The full, regular bloom, and sweet odor of the hyacinths now show their worth as house plants. Bring a fresh collection from the cooler green-house, every two weeks, to keep up a succession of bloom.

Camellias—Syringe once or twice a week, but keep the water from falling on the flowers as it hastens their decay. Examine the foliage for traces of the red spider which injures many collections. If plants are affected, wash each leaf with a sponge and soft water, and syringe three or four times a week.

Cuttings—Make and insert a good supply for a Spring stock. If delayed much longer, they will not become sufficiently rooted and of suitable size to plant out early.

Grapes—Continue the directions of last month according to the degree of forcing they have had.

Insects are now troublesome, unless they have been kept in check by following the directions already given. Fumigating with tobacco will destroy any which have established themselves.

Repotting—Many rapid growing plants require pots of a larger size. Keep potting soil at all times in readiness.

Seeds of many of the out-door annuals may now be sown in pots. They will form good sized plants for decorating the border early in the season.

Syringing often, will maintain a humid atmos-

phere, which is requisite at this season. Dampening the walls and floors has a similar effect.

Water—Give judiciously according to the wants of growing plants. Excess is quite as injurious as too little. Twice a week will usually be sufficient. Evaporating pans filled with water, and placed in different parts of the houses or rooms will be beneficial. The water used on plants should be taken from tanks or cisterns in the houses, so as to be of the same temperature as the atmosphere.

Apiary in February.

BY M. QUINBY.

There will probably be a few days, in this month, warm enough for the bees to fly out. They should be prevented from issuing when there is newly fallen snow on the ground. But if the snow is somewhat hard, having settled or thawed a little, there is no harm in letting them fly. A few may fall and perish, but these will mostly be feeble ones, that would very likely be lost even if the ground were entirely bare. Keep the air passages open. Sweep out dead bees and filth during the turns of moderate weather.

If any change is to be made in the bee yard, let it be attended to this month, that each hive may occupy its summer stand before the bees fly out in Spring. As each bee marks its locality when first leaving, the hive can not be moved afterward without loss of bees, unless taken a mile or more. Arrange the stands four or six feet apart, if there be room. Bees enough will be saved by it to pay, even if it be done at some inconvenience.

If you intend purchasing bees this season, there will not be a better time for it than now, except where they are housed, in which case it is better not to disturb them until a suitable day to put them out. Stocks that have been out through the Winter so far, and are now in *good condition*, may be considered safe. For moving them, use a wagon with springs, unless you can take them on sleighs. If any that are out doors, must be fed, it will not do to risk their finding food on the top of the hive; the weather may not be warm enough at all times for them to go there for it when they need it. It is quite necessary to take them to a *dark warm room*. Be sure that they find the honey; it may be necessary sometimes to invert the hive, and pour a small quantity of liquid honey directly among the bees to save them. When they are to be fed many times, a good way is, to invert the hive, and cut out a little place in the combs for a saucer, into which the honey may be given as they need it. Honey in the combs may be given by simply introducing it instead of the saucer. The bees will be very likely to wax the saucer or comb fast when laid on their combs in this way; but no harm is done by breaking it loose when the feeding is finished.

Mulching Wheat with Buckwheat.

Dr. C. Harlan of Wilmington, Del., advocates sowing buckwheat with wheat in the fall. He says the buckwheat will often grow two feet high before the frost kills it. It will prevent the winds from sweeping the earth away from the tender roots, and will assist in preventing the frost from throwing out the crop; and when spring returns, it will rot down and assist to nourish the young plant when it most needs it. Something in this idea. Has it been tried by other readers of the *American Agriculturist*.

TRYING SEED CORN.—A Correspondent of the Nebraska Farmer, after describing his method of selecting seed corn in the field in Autumn, and keeping it in a moderately warm dry place in winter, says that in the spring he tests it as follows: He rolls or wraps each ear in paper; twists the little end, and shears off the paper at the big end, down even with the ear. He then draws out the ear carefully, and shells it. If the shelled corn of any ear does not fill the paper, it is *rejected*. In this way he sorts out the heavykerneled and small cob grades, and is improving his crop.

SLEIGHS ON BRIDGES.—The difficulty of crossing bridges, especially covered ones, with sleighs, is appreciated by all. No matter how good the sleighing, if a long bridge is to be crossed, not more than half a load can be taken. We remember to have been obliged to take off and put on a load of wheat, in bags, and make three trips across a bridge. This difficulty is admirably obviated at a bridge crossing the Kennebec river in Augusta, Me. In one of the carriage passages a railway is laid down, and a large low platform car so arranged that heavy loaded sleighs can be driven upon it at either end, and pushed over with ease. This plan is worthy of imitation. Any one having occasion to cross a long bridge with a sleigh, would gladly pay a moderate toll for such a convenience.

DECAY OF BUILDINGS.—A writer in the London Chemical News, says that the new houses of Parliament, which are built of Magnesian limestone, are already crumbling into decay. He also states that the rain which falls in cities is more destructive to buildings than that falling in the country, owing to the solvent properties of the impurities which are washed out of city air by rain.

Stick a Pin Here!

WHAT KIND OF CULTURE PAYS BEST?

To illustrate the truth we would impress upon every reader of the *American Agriculturist*, let us take two fields, side by side—one of 20 acres, and one of 10 acres, both sown to wheat last year; market price of the land is \$30 per acre.

FIRST FIELD (20 acres).	Dr.
To Plowing 20 acres, at \$1.50.....	\$30
.. 30 bushels of seed, at \$1.00.....	30
.. Sowing and harrowing 20 acres, at 50 c.....	10
.. Harvesting 20 acres, at \$1.25.....	25
.. Threshing and marketing 240 bushels, at 10c.....	24
.. Interest on cost of land.....	42
.. Taxes on assessed value.....	4
.. Repairs and interest on first cost of fencing.....	4
.. Gathering stones, and sundry expenses.....	4
	\$173

Credit by 240 bushels of wheat, at \$1.....\$240
Net profit.....\$67

SECOND FIELD (10 acres).	Dr.
To plowing 10 acres, at \$1.50.....	\$15
.. 15 bushels seed, at \$1.....	15
.. Sowing and harrowing 10 acres, at 50c.....	5
.. Harvesting 10 acres, at \$1.30.....	13
.. Threshing and marketing 170 bushels, at 10c.....	17
.. Interest on cost of land.....	21
.. Taxes on 10 acres, assessed at \$20.....	2
.. Repairs and interest on cost of fencing.....	3
.. Gathering stones and incidentals.....	2
	\$93

Credit by 170 bushels of wheat, at \$1.....\$170
Net profit on 10 acres.....\$77

The above figures are worth studying. By raising the yield from 12 to 17 bushels per acre, we get \$10 more profit from 10 acres than from 20. The several items, cost of land, expenses of collecting etc., are put at a fair, moderate rate—too low if anything—and they are the same in each case. If we increase these expenses, it will increase the net profit in favor of the smaller field. The same estimates will answer for corn, oats, potatoes, etc. (see Experiments with potatoes, page 43.) *Now for the lesson taught.* Does any one doubt that it would be easy to increase the yield 5 bushels per acre by taking one half of the first field and cultivating it thoroughly, plowing it deep, subsoiling and draining when necessary, and manuring—in short, treating it as you would if trying to obtain a premium from an Agricultural Society? Would it cost over \$20 per acre to put it in a condition to yield this increased crop every year? Certainly not. Then why not sell off ten acres, and expend two-thirds

of the proceeds upon the other ten acres, and save the one-third for other purposes.

Farmers cultivate too much land. If they will take into account the extra cost of tilling a large surface for the same crop, they can but discover that a little land well tilled will *pay* better and involve less care than the same expense on a large surface. You may laugh at our notions of "high farming," but we have on our side the facts, the figures, and—the "dimes." Stick a pin here!

Draining—Why—Where—How.

WHY.

Please read the preceding article before beginning this It is no idle, visionary statement, to say that four out of five, of all the cultivated fields in this country, can be under-drained *with profit*, and this includes a large proportion of the fields usually esteemed *dry*, or at least not wet land; and we hazard the prediction that one half of the present cultivated land of the northern States east of the Mississippi river will be drained within the next 25 or 30 years. Draining is less practicable in parts of the Southern States, and less needed in a warm than in a cold climate. Further, those farmers who first go into draining will first reap the benefit.

It needs no argument to prove, for every one's observation teaches, that a warm, genial soil, free from excess of moisture beneath, is far more favorable to the growth of crops, than one which is cold and subject to excess of moisture a part of the year. Take any moderately dry, loamy land for example, and from November to April, at least, it is filled with water, that is it has more moisture than is required by the roots of plants. This water prevents the passage of air among the particles. In freezing, it expands much more than the soil, for water expands fully one-eighth of its bulk in freezing, while the solid soil expands not at all if dry, but rather contracts a little. This expansion of a wet soil, or of the water in it, tears and breaks the roots of all plants. The constant rising to the surface and evaporation of the water in Spring, not only carries off much heat, but it prevents the penetration of the sun's rays, and of warm air.

Now put under this soil a series of drains at suitable distances to carry off all surplus water, winter and summer, and what will be the result? The air will penetrate among the pores, oxydizing or destroying the poisonous compounds abounding in that portion of all soils which do not come in free contact with the air. These poisons being destroyed, the plants will grow more vigorously. The penetrating air will also aid in fitting the elements in the soil to nourish the growing plants. The moist but not wet soil will be only moderately expanded by frost, and will not break and tear the roots of growing crops. Wheat, for example, *never* winter-kills on thoroughly drained ground. The sinking away of the excess of water into the drains, of course, prevents its evaporation from the surface, and the soil is warmer. This freedom from evaporation in Spring, and the earlier warmth received from the sun and air start the plants ahead a week or two sooner, and this alone often makes half difference in the yield. When land is under-drained, it can be worked, not only much earlier in spring, but also sooner after a rain. The gain of time in this respect, is often of great consequence.

Drained land is not liable to be affected by long cold rains, which are so often destructive to corn and other crops, and which always retard

their growth. On the drained land, the excess of water soon sinks away, and the crops start afresh as soon as the rain ceases.

But, further, a dry field, if well under-drained, is less affected by the drouth than one not so drained. This seems paradoxical, but it is nevertheless true. The air always contains a good deal of moisture, which it invariably yields up to any thing colder than itself with which it comes in contact. A tumbler of ice water will condense moisture upon its surface from the driest air. Now, open air passages (drains) under a dry soil, and the air will pass in through these openings and up through the soil, and the soil being colder than the air, will take moisture from it. In a hot dry day, the warm surface of the soil produces a rapid upward current of air which sucks up the air through the soil from the drains, and a vast amount of water is thus deposited in the soil. Go to the open end of a drain on a hot day and you will find such a strong inward draft, that it will put out a candle instantly; and we have seen the current so strong that it would draw in bits of paper, leaves, and other light substances. This air is a bearer of water to the roots of the parched corn and grain. This is no fanciful theory but sober fact, and has been proved a multitude of times.

We have then, among many others that might be named, the following advantages from draining land:

It prevents winter-killing of crops.

It warms the soil in spring, and lengthens the season of growth.

It enables one to work his land several days earlier in spring, and after rains.

It keeps the ground dryer in a wet season, and

It makes it more moist during a drouth, or during hot dry weather.

It is reasonable that a warm dry, drained soil should be far more productive than if without such treatment.

Two Hours with Mr. Rarey.

USEFUL HINTS ON BREAKING AND TRAINING HORSES.

During the past month, Mr. Rarey has been entertaining and instructing the citizens of New-York, and thousands who have come in from the surrounding country, with lectures and illustrations of his theory or system of breaking and training horses. We very cheerfully accepted his invitation to spend a couple of hours in listening to his explanations and studying the practical application of his method upon several horses. His quiet manner, and evident consciousness of being in the right, are calculated to win favor. The principles at the foundation of his method are so self-evident, that few persons can listen to him and see him operate, without coming away feeling that he is about right—or at least that he is no charlatan. We may mention an incident that illustrates the influence he exerts over those who hear and see him. When going through the process of subduing a vicious horse, he referred to the effects of kindness and an opposite treatment. A gentleman who sat by our side remarked: "I shall send my coachman to hear him if it costs me fifty dollars—it will be worth that to my horses." Several others sitting near responded that they should do the same thing.

In short, we endorse most of the teachings of Mr. Rarey; they are such as we have, for years, tried to inculcate in the *Agriculturist*—though in a less clear and definite manner than is done by

him—and we think he is doing the country a real service in these exhibitions and lectures. We will try to give our readers some intelligent idea of the subject by a brief outline of a part of one of his entertainments, throwing in some of his remarks in "quotations."

A horse is brought in, said not to be a bad one. Mr. Rarey approaches him in a firm, but gentle, soothing manner, rubs his face, pats and fondles him, until the animal seems to really take a liking to him on first acquaintance. He so far gets the good will of the horse that he readily follows him by barely touching the bridle. He next ties a straw in the bit, and the horse leads as well with this as with a halter, and even better. "All hard bits, and hard pulling make hard mouths; your barbed, and curved, and crooked bits only toughen the mouth and stir up resistance. . . . The horse must be treated as a *thinking* animal, in part. . . . A horse always carries himself more gracefully, and is more readily guided by a lady rider, than by a man, because the former carries an easier rein. . . ."

A vicious, biting, kicking, untamed horse was brought in. His first manifestation was to bite, but Mr. Rarey was quickly at his left side, and seizing the bridle hanging over the neck, he began to turn the horse round to the right (away from himself,) by pulling the strap over his neck in that direction. The horse thus turned round, was too busy in keeping his center of gravity right, to stop to bite or kick. "If you are riding or driving a horse hard on the bit, and he attempts to run, or rear up, don't pull straight back with both hands, but with one rein turn him round if riding, or first one side and then the other if driving. This will require so much effort on his part to keep square on his feet that he will neither run nor rear." "A balky horse may usually be started by simply turning his head round so as to disturb his center of gravity." Having pretty thoroughly diverted the horse's attention by frequent turnings, he next gets up the *near* foot, and buckles a strap around it. (See engraving on next page). "To raise a fore foot readily, press one hand upon the shoulder (keeping his head turned from you with the bridle strap if he be vicious) and with the other hand strike the leg gently in front; the horse will involuntarily raise it up."

When one leg is thus fastened in a bent or doubled position, the horse is compelled to stand and hobble round upon three legs. This of course also requires his whole attention. He is then turned round and lead about, *on three legs*, until he manifests considerable anxiety. A strong strap or belt is then buckled round the body behind the fore legs. A long small strap is thrust under this, and one end fastened to the right fore leg, below the fetlock joint. The other end is held in the hand, and as it passes under the body strap, pulling it raises the other fore leg. The horse is then led round, and when he raises the off leg to hobble along, a gentle pull on the strap doubles it up and the horse is brought upon his knees. Holding the strap firmly in the hand will prevent his straightening out the leg, and he is kept upon his knees. "In all these movements keep cool but firm. Exhibit no temper, but act as if conscious of your superior power, and do not irritate the animal."

The strap was made fast to the belt so that it was impossible for the horse to rise from his knees. While thus kept on their knees, some of the wilder horses floundered a good deal. Mr. Rarey sometimes left them alone to fight it out by themselves, but he usually kept turning the head round to induce them to put forth ef-

fort, and thus more readily learn that they were in his power. A thick bed of straw prevented injury to the knees during this floundering. Sometimes an animal holds out a long time, but usually in from three to seven minutes you can plainly discern that his spirit is being conquered, and that he begins to be sensible of his helplessness. You can see an imploring look in the eye of the most vicious animal. After a few more struggles he gives up completely and stretches himself upon his side. His muscles relax, and he permits himself to be handled in any way you desire. The result is the same in every case. When the horse yields—and every horse will yield under such treatment—he yields completely.—When this point is reached, Mr. Rarey soothes him to show he is a friendly conqueror; and handles him in a variety of ways—lifts up his feet, lies down on him, strikes his fore and hind feet together, sits astride of him, opens his mouth, sits upon all parts of his body, etc. In one case the horse sprang upon his knees and tried to resume control of himself, but after trying it awhile, again laid down and gave over the struggle entirely. When evidently subdued, the straps are removed, and the various evolutions and manipulations are performed again. He lays down between the feet of the previously kicking horse—in short, does exactly what he pleases with the animal. We could hardly have believed so complete a subjugation possible, in so short a space of time, and by so simple a process, had we not seen it repeated upon a variety of horses of known wildness, and vicious, untamable propensities.

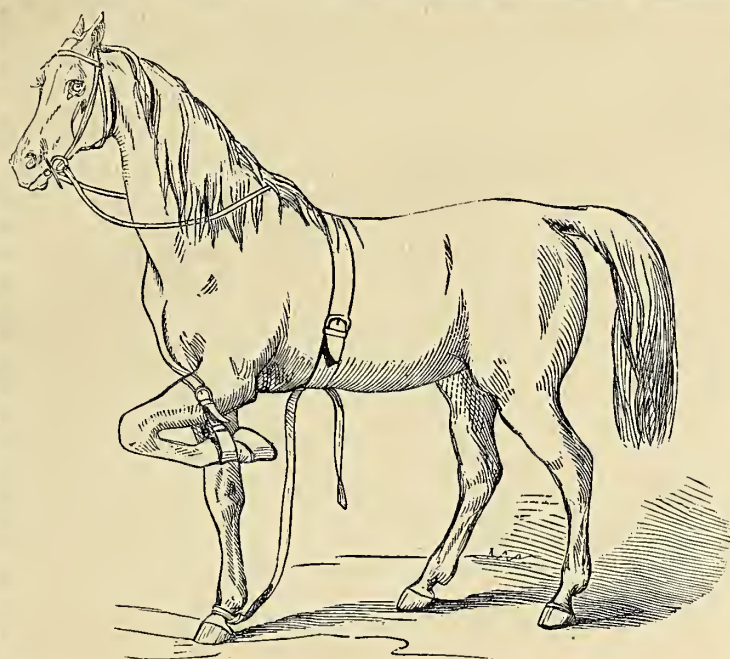
After the horse has lain for ten or twenty minutes, more or less, and learned not to fear or be alarmed at any movements of his conqueror, his head is raised up and his fore feet are placed out for him, when he is invited to get up. He does so, and then the manipulations performed while he was down, are repeated upon him standing, and with just as much facility. His feet are handled, his mouth opened, the operator sets astride his back and neck, and upon his rump, lays down under his feet, puts them on his breast, etc.

The philosophy of this matter is simple and self-evident. Firmness, calmness, and kindness, are requisite, and with them we feel quite sure that Mr. Rarey's simple process will effectually subdue any horse. That a few repetitions of the process will be required with many horses is doubtless true; but a few half hours will be well expended, if they suffice to "tame" a horse good in other respects.

A horse was brought in which was evidently afraid of a drum. Mr. Rarey took the instrument and held it out for the horse to smell of, until convinced that it was no dangerous animal. It was then rubbed against his head, and all over his body, until he paid no further attention to it. It was then set upon his rump, and very gentle taps given. These were gradually

increased until smart strokes were given without disturbing the animal. He was made acquainted with it, and learned for himself that it was harmless.

A colt was then brought in, unused to the sad-



dle. He was introduced to the saddle just as the other horse was to the drum, and in a few minutes allowed it to be put any where upon his back. After the "taming process" the saddle was put on and sat upon, and after his subjugation, he allowed himself to be freely mounted and ridden. "Never jump at a horse, or approach him suddenly, or throw a saddle upon him. An unbroken horse will allow it to come in contact with his nose, and be gradually put upon his head, and over his neck to his back, when he would not let it be brought up to his side where he could not first examine it with his nose. . . . Never cause a horse to jump from you. . . . In getting upon a saddle never stand directly against it, so as to push the toe against the horse's belly, and also turn the saddle over. Stand behind with your right side against the saddle; put the foot on the stirrup so that it will be pushed forward; then seize the mane with your left hand, and you can easily raise yourself up and swing over the saddle."

For the American Agriculturist.

Stumbling Horses.

No fault of horses is more annoying or dangerous than the not uncommon one of *stumbling*. It may be traced to one or more of these three causes: malformation, weakness, or disease. Some may add that of carelessness on the part of the animal; but this, without the others, would not produce it; for with a sound, well developed shoulder, breast, and fore leg, unimpaired in strength, the horse does not need to give especial attention to his movements even on a rough road.

The first cause, *malformation*, may show itself in a narrow chest; a shoulder blade rising too perpendicularly from the leg; a small, unmuscular "fore arm;" knees more or less "sprung;" a badly shaped pastern, or hoofs too slanting and large, or upright and small. The fore parts of a horse give sure-footedness or its opposite, and should be most carefully scrutinized.

Second—*weakness*. This may proceed from and be detected by malformation, as a badly

formed horse is, other things being equal, weaker than a well formed one; or it may be occasioned by injuries, such as strains, colds, bad shoeing, or excessive work.

Third—*diseases* of any kind in the shoulder or hoof may cause stumbling, not only on account of the weakness produced, but from the effort of the horse to relieve the painful part, he will lift his feet but slightly, or perhaps point the toe downward, either of which will cause a liability to stumble. This is the case particularly with foundered horses, and with those that by bad shoeing have "corns." In one animal of my own, the first perceptible symptom of the presence of *corns* was repeated stumbling. A few days after, she was lame, and on removing the fore shoes, just in the "angle" of the hoof were well developed corns. Proper shoeing and careful use for a few days remedied the evil.

The cure for a stumbler is, in some cases, easy, but more generally it can only be partially reached or is beyond human skill. If disease or injury has weakened the limb or its connecting muscles, whatever will restore health will be a cure. If the evil is permanent, or proceeds from malformation, then the animal should be put to such use as will not render him liable to stumble, or will allow him to fall without risk to life or limb. Such a horse is especially unfit for the saddle or for shafts.

Some palliatives may be found in the proper management of the horse, such as holding a moderately tight rein, and maintaining a lively mood in the animal, keeping the head well up and chiding him *judiciously* when he stumbles. If the head is allowed to hang down, the horse becomes negligent of his steps, and moreover, the weight of the head and indeed of the whole body is thrown upon the fore legs, more than when the head is well erect. Some good authorities to the contrary notwithstanding, a rather short check and a firm rein, do render a horse less liable to stumble. An occasional touch of the whip to keep him attentive is also beneficial.

One other much mooted point is, *punishment for stumbling*. Nothing can be more cruel or senseless than the habit of whipping a horse for an act which is involuntary on his part, or the result, perhaps, of former cruelties. It is dangerous too, for if a horse is made to expect the lash whenever he stumbles, he will immediately after each mis-step, start off at a rapid gait. When, as is often the case, by the violent effort of the horse to recover himself, he has broken some part of the harness or carriage, it is impossible to stop him promptly, for he is expecting the usual application of the whip. Yet it is not best to allow the fault to go altogether unnoticed or unpunished, for undoubtedly inattention or carelessness on the part of the horse does very often aggravate the evil. When you are sure that this is the case, at each false step, check him up forcibly, and chiding him with a few sharp words, bring him to a stand. In some cases, a smart stroke of the whip may be allowed, but never until he is brought to a halt (not then if you are angry). By this means he will soon be taught to stop instantly after he has stumbled, and if the harness be broken, he will be less liable to attempt to run away; while the slight pain to the mouth, and your chiding, will do all that can be done toward making him more careful.

HORSEMAN.

Pleasure is sometimes only a change of pain. A man who has had the gout, feels first rate when he gets down to only rheumatism.

For the American Agriculturist.

Dairy Farming on Long Island.

In this part of Queens Co., especially along the line of the Long-Island railroad, many of us farmers are giving considerable attention to raising pure milk for New-York and Brooklyn consumption. Our farms are generally of good size, ranging from 100 to 200 acres, so that we have ample grazing land, and sufficient to raise our hay and corn for winter feeding, although some of us find it more profitable to sell a part of our hay, especially when it brings \$20 per ton, the present price, and buy "corn starch feed," (corn after the starch has been taken out) at the factory and mix with corn meal, shorts, etc. We find it economy to feed high, and can profitably keep the same cows some 4 years; but they should be allowed a rest of from 8 to 12 weeks before calving, to renew their strength and milking powers. I find they pay good interest for such treatment, coming in vigorous, and with a fine flow of milk.

Our milking is done with reference to the trains running to the city; usually at night and morning, however, except some three months in the Summer season, when milking is done at noon. The milk cans, after filling, are placed in tubs of cold water and well cooled before leaving our farms. The milk is conveyed to the city twice a day in the Summer, and once in the Winter, from this station, 30 miles from the City. The freight is now 50 cents per 100 quarts, or 2 cents per gallon. We receive $3\frac{1}{2}$ cents per quart, for six Summer months, and $4\frac{1}{2}$ cents during the Winter, delivered in the City. Our contracts are with milkmen who retail it at the houses for 6 and 7 cents per quart.

Some few farmers keep 30 to 40 cows, but I think the general opinion is not favorable for so many on an ordinary farm, requiring a large outlay for their feed, above the products of the farm. I am now milking but eleven, and get about 100 quarts per day, which is considered a good yield, some of the cows having been milked 9 months already. Upon the approach of cold weather they declined in milk, falling to some 80 quarts, when I had them comfortably stabled most of the day, as well as at night, allowing them ample time to drink and ramble in a large field in the middle of the day, and the yield was very soon increased to 100 quarts with the same feed. About one bushel of cut feed mixed with meal, shorts, starch-feed, etc., is given to each, daily, besides as much straw, and stalks, as they will eat.

As we raise considerable corn, we have abundance of stalks to feed out. If given whole, the cattle eat but a small portion of them, and the long coarse butts are a great annoyance in the manure heap. Some of us have tried cutting them up, but the sharp edges sometimes prove injurious to cows. I have recently tried a corn stalk cutter and grinder, which first crushes, then cuts and picks the short pieces into shreds. It is worked slowly with one man to turn, better with two men, and still better when attached to an endless chain horse-power. With the horse-power I cut four bushels per minute; and am now mixing it with corn meal, shorts, etc., feeding the cows with hay but once a day. In this way I can save a great deal of the hay formerly consumed by the cows. W.

Queens Co., L. I., 1st Mo., 1861.

A DOGGED ADVERTISEMENT.—It is said that in San Francisco, they have a way of making dogs useful for advertising purposes. A white

pup is seized, and the owner's business card painted upon both his sides: he is then allowed to run in the streets upon a dog-trot—a peripatetic advertisement of a fast people. It is calculated that a lively dog is worth five dollars per day, for such purposes.—Hem! Shall we have to recall what we have said in the *American Agriculturist* against dogs in general, and make an exception in favor of white ones? Yes, and the black too, for they can be painted in white.

What the Humbugs are Doing....II.

IMPORTANT HINT ON ADVERTISED "DOCTORS" AND "MEDICINES."

Last evening, in looking over the columns of an exchange paper, we counted *fourteen* advertisements of parties in New-York, Boston, Philadelphia, and Cincinnati, each one of which advertisements set forth the skill of some "old," "experienced," "benevolent," "humane," "retired physician," or otherwise, and in an earnest, almost irresistible manner, besought the privilege of curing the thousand and one ills and maladies which human flesh is heir to. To-day we have glanced over several hundred exchange papers, and noted the same general class of advertisements, and in most cases they were marked to be inserted six months or a year. There were "doctors," or "sure medicines," for lung diseases, consumption, deafness, headache, loss of sight, loss of manhood; for female complaints, etc., etc., etc.

We sallied out to hunt up some of these "doctors," "old physicians," etc., in this City, but no one was "at home,"—as is usually the case, when any one calls upon them. Send your money through the Post Office, and *that* will surely find them at home, or at least some one who will answer to the advertised name, which is generally a fictitious one. Somebody pays for the enormous advertising, referred to above, and that somebody is the country people; yes, and city people too—those who will apply *through* the Post Office. Now, friend reader, let us repeat a rule, which we gave sometime since:

We know not of a single ear doctor, lung doctor, eye doctor, female doctor, private disease doctor, or any other doctor, who is in good repute among medical men at home, or who is worthy of reliance, who offers his services or medicines abroad by general advertisement or private circular.

This is a sweeping rule, and we so intend it. "But," says a letter before us, "I experienced great relief from such a medicine." No doubt you did. But here is the reply. These various medicines usually contain some cheap tonic, stimulant, or cathartic, and the person who takes them, *at first* experiences a stimulating or soothing effect, and believes himself on the high road to health. In a majority of cases, the sickness itself is imaginary, and the advertisement, or the label on the medicine, is all that is needed to effect a cure. The medicine gets the credit of it, and the resulting recommendations cost the country some hundreds or thousands of dollars.

In the case of "Pills"—"bilious" "antibilious," "nervous," etc., etc., etc.—they are nearly all of them, (no matter what the name,) composed of some cheap cathartics, as aloes, scammony, rhubarb, etc. Now, most temporary ailments are the results of derangement of the stomach or alimentary canal, overloading the stomach, and especially of constipation, (costiveness.) In nine cases out of ten, headache arises from over-eating, or costiveness. As

a matter of course, a cathartic pill, producing movement of the bowels, will temporarily relieve the system; and as every one "feels better" *after* such an operation, the medicine gets credit and—sale.

Ask your physician or druggist for a simple cheap, home-made cathartic pill, and we stake our word and "medical" reputation for it, that you will have a *safer, cheaper* medicine, and one that will, in 999 cases in a thousand, prove quite as effectual as any of the thousand and one advertised pills. Abstinence or partial abstinence from food is usually the best medicine—the system is thus allowed to right itself. If one is sick enough to need medicine, he needs the special skill of an experienced physician. These universal remedies are contrived to produce temporary *apparent* good effects, but the after results are quite likely to be bad. In sickness absolutely requiring medicine, and especially in cases where these advertised pills are apparently useful, the home-made pills are preferable. A simple dose of these, followed by moderate eating (chewing the food well as recommended for children on page 53), keeping the feet dry and warm, and avoiding cold drafts of air or night chills, will result in a perfect cure in nearly every case of temporary derangement of the system.

Don't read the medical advertisements; they are generally so worded as to make the well *think* they are sick, and that there is only one cure for them, viz. the medicine advertised.

DR. (REV.) WILSON.—Several persons desire us to show up this excessively benevolent worn-out preacher, who belonged to the "New Haven Conference" which Methodists themselves never heard of, except through him. We have some of his recent circulars and letters, and other information, which show that he is still operating. For his portrait see Vol. 18, pages 189 and 231, (July and Aug. Nos., 1859.)

ANOTHER SEED SWINDLE.

Here is a copy of a document being scattered over the country at the present time, through the mails. A large number of copies are daily sent to us. Look out for this, and half a dozen others that will flood the country as the planting and sowing season approaches.

"JAPANESE WHEAT." TO FARMERS AND OTHERS.

We have a quantity and shall keep constantly on hand a new kind of Grain, known as Japanese Wheat, which we have secured at much expense, and we are the only persons in the country who have it in merchantable quantities. This superior grain has many qualifications that should recommend it to every farmer in the United States and Canada. It matures in about twenty days less time than Oats, and can be grown in any part of the country, for it will ripen if not sown until July; it also is raised with as little care and expense. It is unlike other wheat in every respect, except it makes a very fine white Flour. It is a most remarkable grain to stand severe drought. It has grown the last season by actual measurement, at the rate of

300 BUSHELS PER ACRE.

We know from actual experience that it will average from one hundred to one hundred and fifty bushels per acre as a field crop, and it will yield fodder at the rate of three to five tons, that is equally as good for any kind of stock as the best Timothy or Clover hay. The heads will average ten inches in length; the grains are quite small. The stalk is sufficiently strong to support the head and prevent it from lodging. The grain for feed is equal to Corn, and some contend, after examining it, that it is even better for all kinds of stock, particularly horses. Hogs will fatten well on it. It weighs 56 lbs. per bushel.

This is a correct description of the grain, for the truthfulness of which we can give, if required, references or certificates of very reliable farmers who have seen it growing, and the grain after it was harvested.

Any person that will send us one dollar in gold, or currency, we will send them by mail, postage paid, a sufficient amount of grain which they can raise enough to grow the following year at least 300 to 400 bushels. Directions will accompany each package."

Yes, Messrs. Advertisers—"keep it on hand" by all means; we'll help you do *that*, and trust you will lough be the "only parties in the country who have it." "Known as Japanese Wheat," is it? By whom, pray, except you who have it to sell, and who gave it the name to deceive the public? Why did you not give a

certificate from the Japanese Commission, while your hand was in? Why don't you honestly say: "We have a lot of *millet seed*, which we want to sell at one dollar a handful." The reason is plain. Millet, or Hungarian grass seed can be bought for a dollar or so per bushel.—If our readers want any of the article, let them buy it by its proper name—don't send for "Japanese Wheat." The "300 bushels per acre" story, is too monstrous for any man of ordinary capacity to swallow. Messrs. Humbugs, you stretched that statement until it was transparent—all ought to see through it, and discover the swindlers standing behind.

Query—This scheme hails from the city where the Honey Blade Grass swindle started. Is it an "operation" by the same parties who played that game? Perhaps this is part of the old seed left over after the sale was stopped by the exposure of the scheme in the *Agriculturist*.

P. S.—Since penning the above, a Western correspondent writes: "The seed is here sometimes called 'Mexican Rice,' 'South American Wheat,' 'Sugar Cane Wheat,' and other names too numerous to mention. It makes a flour somewhat similar to buckwheat, but not so good. The stalks can be used as fodder, but are not equal to corn stalks. The seed can be bought here at 50 cents per bushel!"

Permanence of Bone Manure.

The Mark Lane Express, in speaking of bone manure, states, that one of the most valuable qualities of bones is the slowness with which they decompose, and the length of time during which they continue to give out the phosphates. Analysis shows that one pound of bones contains as much phosphoric acid as 28 pounds of wheat. Now a crop of wheat of 32 bushels to the acre, contains only as much phosphate as is found in 70 pounds of bones. It is clear, therefore, that if bones are put on at the rate of 350 pounds per acre, supposing them to decay rapidly, and give out the phosphates in proportion, a large part would be wasted. But the following circumstance proves that this is not the case. A gentleman who occupied a large farm in Norfolk, finding that he was likely to have a quantity of bone dust left, if he distributed it at the ordinary rate, directed his foreman to increase the quantity per acre. On the following day he found that the man had *doubled* the allowance, and that, at that rate, he would not have enough to finish the field. He therefore directed him to use about 4 cwt. per acre for the remainder of the field. Now mark the result. *Eleven* years after, the farmer on riding over his land with a friend, came to this field, which was for the third time after the above occurred, sown under wheat, and requested his friend if he saw any difference in the growth of the wheat, to point it out. After riding a few yards, his friend suddenly stopped and exclaimed: "What in the world have you been after here? This wheat is six inches higher and as stout again as the rest." The farmer then explained to him the facts above stated, which prove that by the deliberate manner in which bones give out the phosphates in decomposition, they possess a more permanent value than any other kind of manure.

REMARKS.—We find the above in type, prepared by an associate. It needs a word of explanation. On wet, cold soils, bones in a coarse condition will often remain many years before being fully decomposed, while their gradual

decay will furnish some nutriment to plants from year to year. On warmer soils, they will decay speedily, especially if finely ground. But we attribute the benefit of bones mainly to the *organic matter* they contain, and not to the phosphoric acid as stated above. Burned bones retain all the phosphoric acid they contained in their unburned state, but we have yet to learn of any material benefit from *burned bones*. When made into superphosphate, the added acid and other materials probably give the compound its principal value.—ED. AMER. AGR.]

How Mr. Jones Tilled his Land.

(Continued from page 8, which see.)

INSTRUCTIVE EXPERIMENTS.

My first experiment was in deep plowing, including also the use of lime and manure. After the corn was removed, in November 1853, I plowed three acres as deeply as I could, with two yokes of heavy oxen and a horse as leader, say 12 inches deep. The next two acres were plowed about 10 inches deep; the next two about 8 inches, and the next two 6 inches, running the furrows lengthwise of the field. In Spring the field was divided into three equal parts *across* the furrows, and corn, oats, and peas put on. This arrangement brought a portion of each kind of crop upon the different depths of plowing. Part of the rows of corn were treated to lime in the hill; part to a little barn yard manure in the hill; and a part had nothing applied. So, also, a part of the ground for oats and peas received a surface dressing of lime harrowed in; part received a light dressing of manure; and a part received nothing.

Here is a plan of the field. It was easily laid out thus, by stakes on each side of the field.

	Nothing.			Manure.			Lime.			
	1	2	3	4	5	6	7	8	9	
2 a. 2 a. 3 acres	10	11	12	13	14	15	16	17	18	Plowed 12 inches deep.
	19	20	21	22	23	24	25	26	27	10 inches.
	28	29	30	31	32	33	34	35	36	8 inches.
2 a.	28	29	30	31	32	33	34	35	36	6 inches.
Corn. Peas. Oats.										

We did not stop to even measure it, but used fence corners as divisions or measuring points, in putting the stakes for plowing, applying manures, etc. You will see that by this simple arrangement I obtained 36 plots; the first nine containing nearly $\frac{1}{2}$ acre each, and the other 27 not quite $\frac{1}{2}$ acre, all differing in the depth of plowing, or kind of crop, or manuring. The plan was sketched on paper, and the numbers marked with a pencil on the small stakes set up around the fence. No great accuracy was aimed at, in keeping them separate, yet each plot was sufficiently distinct to be easily examined.

On the portions plowed 12 inches deep, (plots 1 to 9,) the crops were all poor; those on 1, 4, 7, with no manure, were very poor. On the manured plots, 2, 5, 8, they were a little better, and still better on the limed plots 3, 6, 9, though hardly good enough to pay expenses. The corn showed most benefit from the lime on 3. The oats on 5, with manure, were nearly equal to those with lime, on 6. The best peas on the 12 inch plowing were on 9, with lime.

On the 10 inch plowing, (plots 10 to 18,) the

crops were all better than on the 12 inch, but still the yield was not satisfactory. Nearly the same comparative differences were found as in the 12-inch plowing in the use of manure, lime, and no manure. The best corn was on 12, with lime; the best peas on 15; while the oats on 17 and 18 were nearly alike.

The best crops were on the 8 inch plowing (plots 19 to 27;) but here the manured plots 20, 23, 26, were better than the limed plots, 21, 24, 27. The poorest yield by one-fourth was on the unmanured plots, 19, 22, 25. The corn and peas appeared to show better results for the lime than was exhibited by the oats.

On the 6 inch plowing, plots (28 to 36,) the crops were considerably better than on the 10 inch and 12 inch plowing, though the corn on the 6 inch and 10 inch were about equal. But on the shallow plowing, the manured plots, 29, 32, 35, were plainly ahead of the limed plots 30, 33, 36, and far ahead of the unmanured 28, 31, 33.

The results of the above experiments were quite instructive to me, and furnished much matter for study and reflection. The poor show on the deepest plowing, 1 to 9, staggered me, and I was at first disposed to condemn deep plowing. But the fact that the crops on the 8 inch plowed plots, 19 to 27, were better than on the 6 inch deep, showed plainly that partially deeper plowing was useful; and a timely article in the *American Agriculturist* taught me that such results might have been expected. The fact was, the lower six inches turned up by the deepest plowing, had never been exposed to the air, and being a heavy loam, and partly filled with what you called poisonous sub-salts of iron, it was not fit for any crop. It is probable that nothing would have grown, but for the fact that it was plowed in Autumn, and the action of frost and air during winter partially ameliorated it. The better results from the lime on plots 3, 6, 9, also showed the presence of poisons partly neutralized by the lime.

The better results on the 10 inch plowing, where only four inches of new soil were brought up, confirmed the views you offered in regard to the necessity of the action of air upon a soil to fit it for plants.

On the 8 inch plowing, the two inches of new soil brought to the surface were so thoroughly prepared by frost and air, even during the first winter, that, with the greater depth for the roots, the crops were by far the best—better than on the deeper or shallower plowing.

Another noteworthy result, in the above experiments, was the fact that, on the shallow plowing the manure was more effective than the lime, while on the deeper plowings the lime was most beneficial. This showed plainly that the lime acted as a corrective in the newer soil, and was not so much needed on the old thin soil.

The better yield on plots 30, 33, 36, where lime was applied, than on plots 28, 31, 34, where nothing was applied, showed, however, that lime was useful under any circumstances for my moderately heavy loam land, and I have since used it pretty generally—always with positive good results, where a small portion of a field has been left without the application, for comparison. And I may add, that so far as my experiments go, the teachings of the *Agriculturist*, are correct, that a little lime, more or less according to the heaviness of the soil, applied to every crop, or on the land before it is seeded, is preferable to heavy liming at long intervals.

Before leaving the above experiments, let me add, that the deepest plowed portion of the above field continued to improve rapidly, and

even the next crop was better on this than on the 6 inch plowing, and the 10 inch was better than the 8 inch, showing that air and freezing ameliorated its marsh qualities, and that when this was done, its greater depth was more congenial to the plants.

Not being able to spare the field that year for further uncertain experiments, I sowed it to wheat. After the removal of the crop, a light coating of manure was spread on and turned under with the stubble, running the plow 8 inches deep. Upon the plowed surface I sowed broadcast and harrowed in 100 bushels of lime on the four acres plowed 12 inches deep; 40 bushels on the two acres plowed 10 inches; 30 bushels on the two acres plowed 8 inches; and 20 bushels on the 6 inch plowing. The wheat was then sown and harrowed in, rather late, but I obtained a good yield—the best on the 10 inch plowing, as above stated. Clover seed was sown on the growing wheat in the Spring of 1854, and a good setting obtained. In the Autumn of this year, having read your series of articles on draining, I determined to experiment again. Drain

HOW MR. JONES DRAINED.

tiles were out of the question as none were to be had; so I resorted to stones. A considerable supply of small round stones, with some boulders, had accumulated around the fence and in heaps where we had piled them as they had been gathered year after year from the surface. The larger stones were broken into convenient pieces, as broad and long as we could make them. A supply of flat stones was also obtained from a quarry two miles distant.

My drains were put 40 feet apart, running from the road back across the field, which rose about three feet in 30 rods. We opened the drains by using the plow to throw out the earth each way, continuing to go back and forth until the cattle could no longer walk, when we resorted to the spade, and sometimes to the pick, to loosen the hard subsoil. A trench was made 3 to 3½ feet deep, and 15 inches wide in the bottom. Boards 4 inches wide were laid along the middle, and then cobble stones, 6 to 8 inches in diameter placed along each side. The larger broken pieces, and the flat stones from the quarry were used as covering. The smaller stones were then thrown in as we chanced to have them. Some wheat straw was put on, and about a foot of soil thrown back with the shovel. After this had settled somewhat firmly, we filled in the rest with a plow, using a long yoke, so that the oxen could walk on either side of the ditch. When covered, the top of the stones were about 2 feet below the surface.

We worked at this ditching for nearly a year, at odd spells, as we could find time. I employed two newly arrived Irishmen who were handy with the spade, and but little acquainted with other work, paying them \$7 to \$8 a month and boarding them, and using them for other work when it could be done to advantage.

The outside cost of the 775 rods of drains, did not exceed \$160, or \$16 per acre; for most of it was done when the men and teams would not have been doing much elsewhere; but had it cost \$500, it would have been money well put out. I should have remarked, that while the draining was going on during the summer of 1855, the field was used for a pasture, and though considerably broken, it afforded a good deal of feed.

In the Autumn of 1855 I put on what manure I could spare, about seven wagon loads to the acre, using most over the ditches where the clover was not growing. The manure and

second growth of clover were turned under, and 350 pounds per acre of plaster sowed on and harrowed in, after which wheat was sown. No clover seed was sown in Spring. The yield of wheat harvested in 1856, was 26½ bushels per acre, against 21½ bushels on an adjoining field, similar to it in all respects, except in not being underdrained. This looked like paying at once, the extra 5½ bushels of wheat per acre, being fully 30 per cent interest on the cost of draining.

SOLOMON JONES.

(Concluded in next Number.)

Experience in Liming Land.

[Our questions on the use of lime, page 11, are having the desired results, viz., to call out *experience*. Here is a straight-forward account, and our readers will understand, that it is from one who says he has never written a line for a paper before. If farmers only thought so, any of them could describe in a similar, plain, practical manner, the methods and results of their various operations. Ed.]

MR. EDITOR: In answer to your questions, I will say that I have used over 25,000 bushels of lime on my land during fifteen years past, and ought at least to know something about it. My land is a heavy limestone soil, with heavy clay subsoil, not considered wet. The lime used, is burned from our "blue stone," and costs 9 to 10 cents per bushel, delivered. I use it air-slaked, or slaked with water, as may happen, only taking care that it be fine like flour, and not drowned with water. I apply 150 bushels to the acre, once in 20 years—the second application not as heavy as the first. [There must be a mistake here as to the "20 years," the writer having used lime only 15 years. See March "Basket."—Ed.] It is applied on clover sod, and used for all crops, but manuring must not be neglected.

Now for the practical results. In 1845 I limed part of a field with 80 bushels to the acre, on oat stubble, with stable manure. The remainder of the field was also manured, but without lime from that day to this. There was no difference in the crops in favor of the lime, which I can only account for on the supposition that there was not enough lime put on.

Two years following, I limed a different field with 150 bushels to the acre on clover sod, some time in June. One acre, however, was left without lime, as I have been always ready to try some experiment. The lime was well air-slaked, and then spread on the clover, and plowed under in July very shallow. In September I plowed it the same depth, to mix the lime with the clover, and sowed it to wheat. In four weeks after the wheat was up, you could see a great difference in favor of the lime. At harvest, the limed part of the field had one third more wheat than the other, which would more than pay for the lime the first year. The following crop was Fall barley, with the same result. Then it was put in clover, also with same result. No sorrel to be seen on the limed part, while the unlimed was very full. Then wheat followed again, with the same good result. Then it was put down in clover, but missed on account of the drouth. It the Spring following it was plowed, and put in corn, which grew very well for the first 4 weeks, when that on the limed part became yellow, striped, and sickly. I first concluded it was the wireworm, but never could find any. I came to the conclusion I found it must be the lime, and on examination I found the unlimed part not affected, and the result was in favor of the unlimed 50 per cent. Now, I have often heard farmers say that their corn was injured by the wire-worm, but, in five cases out of six, I suspect it is the use of lime without manure, or some vegetable substance. I would

advise all my brother farmers to make, gather and save all the manure they can, for lime without manure, will make a man poor. In all my experience, I have received the most benefit from liming on the sod, at any time, even if not plowed under for a year afterward. The quantity per acre depends on the kind of soil.

Cumberland Co., Pa.

J. M.

A New Silk Worm—Substitute for Cotton.

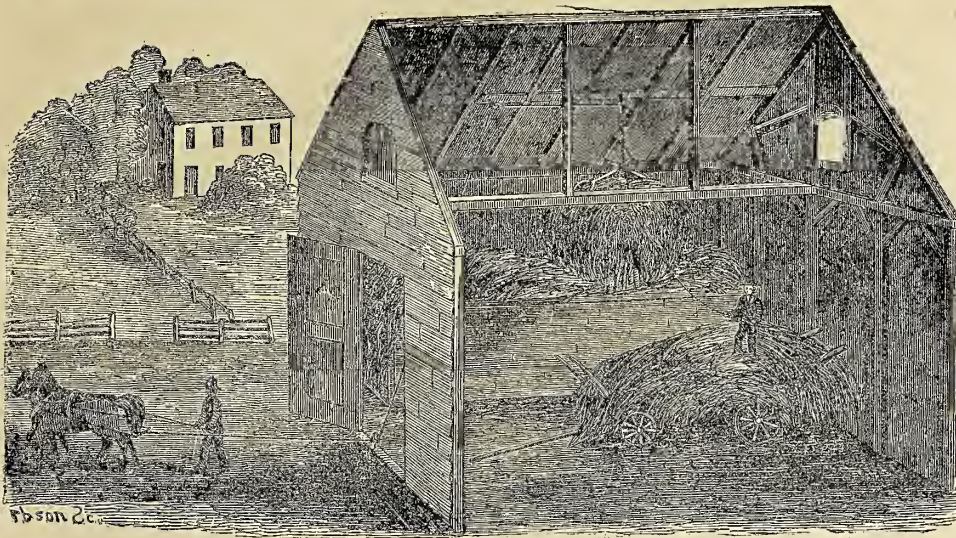
The following is condensed for the *American Agriculturist*, from our foreign files. The information appears to be reliable, and is given without comment by Dr. Lindley in the *Gardeners' Chronicle*. Here is, perhaps, a new field of enterprise opened—though we are not ready to endorse all the new discoveries of our French collaborators. The account runs as follows:

In March, 1859, a request was made of the French Emperor to provide the means of making an experiment on a large scale for the rearing of a new kind of Silkworm, which lives in the open air on a very hardy plant, the *ailante*, and produces two crops a year of a strong silky fiber which has been used for ages past in China, to make clothes for the great mass of the people. The authority was immediately granted, and the result, as now published, surpasses all expectations. More than three-fourths of the worms produced excellent cocoons, and it is now fully ascertained that the new worm gives a profit of 100 per cent, and often much more, whereas the Mulberry Silkworm is considered very successful when it makes a return of 15 per cent on the capital employed. The silk of the *ailante* is of inferior quality, well adapted for coarse fabrics, and will form an excellent substitute for cotton, of which France annually imports 162,900,000 pounds from the United States. M. Guerin Meneville, who was the first to introduce the new silk into France, proposes to call it *ailantine*. He is now studying the best means of promoting the production and manufacture of the new silk, which he thinks will ere long supply the chief clothing of the people. The *ailante* on which the worm feeds, is the *Ailantus glandulosa*, one of the hardiest of trees, and very common in American cities and towns.

Our Cities—Population and Rank.

The following table will be interesting for present examination and future reference. It will be seen that the growth of several of the cities has been remarkable—8 of them having more than doubled in ten years. The first column shows the relative rank in 1860, and the last column the rank in 1850:

Rank in '60.	City.	1860.	1850.	Actual Inc. P ^{ts} per c.
1	New-York.....	814,277	515,617	298,780 58-1
2	Philadelphia.....	568,034	408,362	159,772 34-2
3	Brooklyn.....	273,425	96,838	176,587 182-7
4	Baltimore.....	214,037	169,054	44,983 27-3
5	Boston.....	177,902	136,881	41,021 30-4
6	New-Orleans.....	170,766	115,375	54,391 47-6
7	St. Louis.....	162,179	77,869	84,310 108-8
8	Cincinnati.....	160,060	116,455	43,605 99-5
9	Chicago.....	109,420	20,963	79,457 265-18
10	Buffalo.....	84,000	42,251	41,739 99-11
11	Louisville.....	75,196	43,194	32,002 74-9
12	Newark, N. J.....	72,055	38,894	33,161 85-14
13	San Francisco.....	66,000	34,870	31,130 89-16
14	Washington.....	61,400	40,001	21,399 53-13
15	Providence.....	50,689	41,513	9,156 22-12
16	Rochester.....	43,096	31,408	11,688 32-15
17	Jersey City.....	46,834	31,019	25,815 123-21
18	Milwaukee.....	45,323	20,061	25,262 126-24
19	Cleveland.....	43,550	17,034	26,516 156-29
20	Charleston, S. C.....	40,192	42,985	loss 2,791 loss 6-10
21	Troy.....	39,633	28,785	10,848 36-19
22	Refinond.....	37,928	27,570	10,388 37-29
23	Lowell.....	37,069	35,383	1,686 11-17
24	New-Haven.....	30,277	20,345	9,932 90-22
25	Hartford.....	29,356	6,856	22,400 327-35
26	Hartford.....	29,168	17,966	11,202 62-26
27	Cambridge.....	26,074	15,215	10,859 71-43
28	Roxbury.....	25,137	18,364	6,773 37-25
29	Charlestown, Mass.....	25,120	17,216	7,904 46-27
30	Worcester.....	24,963	17,049	7,914 46-23
31	Nashville, Tenn.....	23,715	10,165	13,550 133-34
32	Salem, Pa.....	23,171	15,743	7,428 47-31
33	Salem.....	22,486	20,263	2,222 11-23
34	New-Bedford.....	22,309	16,443	5,866 36-30
35	Dayton, O.....	20,132	10,977	9,155 83-36



BEARDSLEY'S HAY ELEVATOR, OR HORSE POWER FORK.

The advantages to be gained by the substitution of mechanical and animal powers for human muscles, in agricultural operations, have been so thoroughly proved, that he who refuses to avail himself of good labor-saving implements, must be content to remain in the rear rank among cultivators, both in ease of accomplishing his work, and in successful results from it. To aid those who are seeking such inventions, in making a selection, we publish, from time to time, illustrations and descriptions, that parties interested may examine them and form an opinion of their applicability. We prefer in

all cases to study the actual working of apparatus before admitting illustrations; but this is often impracticable. The engravings here introduced, represent a recently patented horse-power pitchfork, invented by Levi A. Beardsley, Otsego Co., N. Y.—*Fig. 2*, shows the fork, and *Fig. 1*, the manner of arranging the pulleys for working it. The directions for its use, as given by the patentee, are:

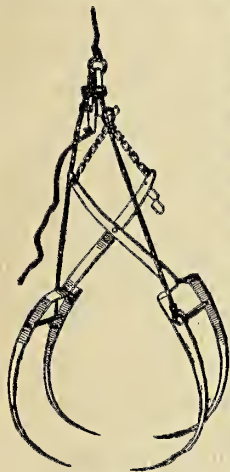


Fig. 2.

Place the fork on the load, lengthwise with it,

and by stepping upon the rods that brace the tines, they will readily enter the hay. Set the hook and fasten the lifting chain to it by its ring. The horses can then elevate the fork-full, and when it is in the right place to be dropped, the man on the load pulls the catch cord, which he keeps in his hand, when the fork will drop a little, and by means of the side ropes, the tines are drawn wide open, and the hay is discharged. The spring on the upper end keeps the fork open, so that it is ready to enter the hay on the load when lowered by the backing of the team.

It is claimed that the two-horse fork can take up from one sixth to one fourth of a load to the fork-full, at which rate there must be a great saving of time, in addition to the relief given from the severe labor of hand-pitching. As stated above, not having seen this form of the implement in operation, we can not give a decided opinion upon its merits, but commend it to the examination of those interested. The price for the two-horse apparatus complete is \$16.

There is, we believe, a one-horse fork made by the same party; but there is economy in the use of the larger instrument. It takes but a few minutes to unhitch the horses from the wagon and attach them to the pulley rope, and they can, of course, raise a much greater weight at one time than could be done by a single animal.

For the American Agriculturist.

Self-Fastening Door-Catch.

The following was contrived on a rainy day, by one who was often annoyed by the flapping of the small barn-door against the sides of the barn. Push the door back against the sides of the barn, and with an inch auger, bore a hole through the weather-boarding and door; the auger striking the door an inch or two from the edge, and about midway from top to bottom. Fasten a pin tightly into the hole in the door, thin it a little so as to pass easily through the hole in the weather-boarding, letting it extend through two inches or more. Cut a notch in the upper side of the pin, large enough to receive a wooden spring. Taper the pin from the lower edge to the notch, so that the spring will slide into it. Fasten the wooden spring, made for the purpose, at a suitable distance, and it is done. If a door be accidentally left open, the first gust of wind will drive it back against the side, and the spring in the inside, sliding into the notch in the pin, fastens the door.

F. M. BAKER.

Centre Co., Pa.

(Editors please Copy.)

To All Agricultural and Horticultural Societies—Special Notice.

Not a week passes without a request from some Society in this country or abroad, for a partial or complete list of the various agricultural societies in a part or the whole of the United States. No such list is in existence, and yet one would be very desirable on many accounts. If the Officers of the various societies will aid in the matter, we will undertake to get up one at our own expense, as follows:

Let the Secretary of every State, County, Town, or other Agricultural or Horticultural Society throughout the country, send to the office of the *American Agriculturist* (41 Park-Row, New-York), a full list of the present officers; and then whenever an election takes place, let a similar list of the new officers be sent in the same manner, in the form given herewith.

We will prepare a book, allotting a page or part of a page, as may be necessary, for each county and its town societies, where such exist in the county. The States will be arranged alphabetically, and also the counties in the several States.

In this book, in the proper place, will be pasted the list of officers of each society. When a new election takes place, the new list of names will be partially pasted over the previous one, leaving it so that the former lists can still be referred to when required. If this enterprise be seconded by the societies, there will thus be secured, at one point at least, a book for ready reference when ever required. We can not probably find room to publish more than a summary of the number of societies, but whenever any association desires to address a circular, or open correspondence on any topic, with other societies in its own or other States, there will be an accessible list.

Please send forward the lists systematically arranged in the following form.

Name of Society, (Stating whether State, County, or Town.)
 State..... County..... Town.....
 President..... Post Office Address.....
 Vice President..... do.....
 Cor. Secretary..... do.....
 Recording Secretary..... do.....
 Treasurer..... do.....
 Managers..... do.....
 do.....
 do.....
 Time and Place of Exhibition for 1861 (if appointed).
 State..... Co..... Town..... Day of begin'g..... Day of ending.....
 Date of Annual Meeting for Election of Officers, etc.....

N. B.—For the sake of uniformity, please follow the above form precisely; also spell and write the names *very plainly*. Let each name, and the Post Office address be written on a single line. Use foolscap paper, or paper of the width of foolscap, and let the names occupy as small a space as possible up and down, that they may not require a long space up and down on the page of the book. Let us have reports from Horticultural as well as Agricultural societies. Anything special in regard to the aim of any society, not indicated in its name, may be stated briefly directly under the name, above the list of officers.

Let these lists be closely written and on only one side of the slip of paper, that they may be pasted directly into the record book. Will the first officer or active member of any society who reads this notice, please see to it that some one forwards the list, that we may be able to finish up the work promptly while about it?

Our Neat Cattle—Are they Improving?

Every observant man who has, for the last dozen years, kept the run of the numerous importations into this country of the most popular English breeds of cattle, and who has seen them sold at high prices to eager buyers throughout the best stock-growing regions, will be ready to answer the above question in the affirmative. But let the same observant man witness the heterogeneous assemblage of beef cattle that every week come into New-York market, and he will be quite as likely to give a negative answer.

A hasty review of the introduction of improved breeds, may not be uninteresting. Early in the present century, Short Horns were imported into Virginia. They were taken to the fine grazing lands on the south branch of the Potomac river and bred with care, and their descendants, crosses of the imported upon the native cattle, early gained a high reputation, which continues in that valley to the present day. Some of the descendants of the thorough breeds were taken

to Central Kentucky fifty years ago, and some years later, descendants of the Kentucky stock were driven into the Scioto and Miami Valleys of Ohio, where they improved the native herds among which they were scattered. In 1817, Short Horns were imported direct from England to Philadelphia, and went into Kentucky, where they were crossed upon the Virginia stock already there. From 1818, down to 1825, occasional importations of Short Horns and Devons were made into Boston, New-York, Philadelphia, and Baltimore, and scattered into the country adjacent to those cities. They were bred with care, and considerably crossed upon the native cattle in their several neighborhoods, tending to a decided improvement, both in the beef and milking qualities of the stock among which they were disseminated.

Encouraged by their success in breeding from the early Virginia and Kentucky importations, in 1833 a company of spirited cattle breeders in Central Ohio, made a large importation of Short Horns from some of the choicest breeds in England. For several years afterward—up to 1839, we believe—these importations were repeated by the same association in Ohio, and other associations in Kentucky, besides some few importations by citizens of the States of New-York and Pennsylvania. The spirit of cattle improvement ran high, and the prices of choice stock became enormously inflated; but with the decline in value of all agricultural products in 1840 to 1845, the prices of improved stock fell down to as much below par, as they had ruled above, and the proud herds which, but a few years previous, had attained such wide distinction, now grazed in the fields of their crest-fallen owners, without purchasers, leaving scarcely a hope that they would again rise to paying prices. But, with the increased value of our American meats, and their demand for foreign markets, in 1852 and '53 our improved herds began again to look up, the demand became active, and importations for several years thereafter were made, of choicer stock than ever before, and in much larger numbers, until the financial revolution in the latter part of 1857 again stopped them, as in 1839. A few importations have been made since, up to nearly the present time, but only of choice animals, chiefly to cross upon some select herds, and perpetuate strains of blood of great value in the estimation of their owners.

It will be seen in this running account of these valuable cattle in our country, that they must have become widely disseminated throughout all our stock breeding States, and crossed as they have been, very generally, upon the native stock, they should have improved the character and value of our neat cattle in an eminent degree, aside from their own multiplication as a distinct race, in their own distinctive blood and lineage. There are now more than five hundred breeders of thorough-bred Short Horn cattle in the United States and the Canadas; probably a hundred breeders of Devons; besides numerous breeders of Herefords, Ayrshires, Alderneys, and Galloways, these being the chief breeds of British cattle which have attracted the attention of American farmers.

As a consequence of this diffusion of improved blood in our herds, the standard, both in weight and quality of our beef, is higher than before it was introduced, while our cows are decidedly better milkers than of old, and of increased size, or otherwise, as they partake of the blood of either of the breeds from which they are descendants.

Another benefit has followed this infusion of

better blood into our native cattle. The method of keeping them is an improvement over the old practice, when we had nothing but the common ones to look after. Improved herds will not bear *starvation*, without a fatal detriment to their appearance and value; while the old stock, by neglect, had become constitutionally injured to it; and nobody appeared to consider it necessary—aside from purposes of immediate profit in their growth, labor, or milk—to keep them above the mere *living* point of existence. There is still too much of this profitless practice throughout the country. It is not only a loss to those who follow it, but it has a directly injurious effect upon the breeding of choice cattle. Many butchers buy almost worthless stock, because it can be had at a low price. Their customers are from the poorer classes, who are deceived with the cheap rate at which they purchase their meat, not considering that it is the dearest food they can buy. This state of the market keeps down the price of well fed, choice cattle, below a paying point, and has had a discouraging influence on breeders of improved stock.

Yet, notwithstanding this draw-back, there is abundant evidence that a more rational system has commenced. As our general agricultural practice improves, this most important branch must continue to advance, until, at no distant day we hope, the stock of the United States will stand foremost in the world.

Apples Good for Cows.

Now, while cattle can get so little food that is succulent and refreshing, it is well to cast about for everything that can in any way supply this lack. Potatoes, turnips, carrots—if these are not all gone—let an occasional mess find its way to the feeding troughs, especially those of the milk-givers. This year, where apples are abundant, let them not rot for want of use. Look over every barrel and box, once a month at least, cull out the small and defective ones, and feed them out to the cows, from time to time, as they may be needed.

Too little use is made of the apple—sweet ones especially—as food for stock at all seasons of the year. Every dairyman knows that soon after the first frosts appear, his milch-cows begin to dry up, and need to have messes of some sort to keep up the abundance and richness of their milk. Let a few apples form a part of their daily dessert, and the effect will be apparent. And if the same mess is continued at intervals through the Winter, it will be very advantageous. Some persons, we know, have formed a different opinion, from seeing the bad effects of apple cating upon cows, when they have accidentally broken into an orchard, and gorged themselves with forbidden fruit. But suppose they had been allowed a few apples every day, would such results have followed? Horses are sometimes injured by eating grain to excess, and by drinking cold water at unsuitable times; are grain and water therefore bad for horses?

In the numerous orchards now being planted all over the country, it would be wise economy for the farmer to appropriate a section for the use of his cattle. As to the varieties best for this purpose, cultivators do not seem to be yet agreed. All that has been looked for, thus far, has been productiveness and hardiness. It would be well if a list should be made out of those ripening at different seasons, for a succession. The "Country Gentleman" proposes several sorts for such a list. For example, the *Hightop*, for Summer use. *Coolie's Sweet*,

Jersey Sweet, *Munson's Sweet*, and *Pumpkin Sweet*, for Fall feeding. And for Winter, the *Sweet Pearmain*, the *Wing Sweet*, and the *Green Sweet*, the last named keeping quite late into the Spring. As will be seen in another article in this No. we are taking measures to secure long needed reliable information on this topic, of the best selections of fruit for particular localities, which will be invaluable. (See page 49.)

Good Stock are Cheapest.

A bullock of improved breed, at three years old, will be superior both in size and weight to one of the coarse, common kind at five years. Two years' feed and trouble are thus wasted upon those animals which by their nature are fitted to transmute hay and grain into hide and horn and bone, rather than into meat. In *quality* of flesh, the well bred steer as far exceeds the coarser brute, as the rich melting flesh of a Bartlett or Virgalieu pear is superior to the astringent, gritty substance of a wilding.

When choice cattle were rare, when a well bred Short Horn, or Hereford, or Ayrshire, could only be weighed down by a purse of \$1000 to \$2000, it was too much to expect that men of moderate means, the great middle class of farmers, should become enthusiastic in improving their stock. But now, the better breeds are so widely disseminated over the country, that they are easily and cheaply obtained. Young bulls, thorough bred of their several kinds, abound. Numbers of them are every year made into steers for working purposes; but the use of these, at proper age, even upon the meanest common cows, and a few consecutive crosses upon their progeny, will, in a few years, give the breeder a herd, for all practical uses, equal in beef and dairy value to the best, and which will return in their products, double the profit to be derived from the inferior animals. The season for breeding neat cattle will soon be here. Let every owner of stock take time by the forelock, and secure, at least, the use of the best animal that can be obtained within a day's travel, or more if need be. Two years' feed will be cheaply bought by a week's labor thus given at the first in improving the breed.

Pen Portrait of a Model Cow.

The following beautiful outline portrait of a well bred milch cow, occurs in a communication to the *American Agriculturist* by Lewis F. Allen, editor of the "American Herd-Book."

"She is marked with lines of comeliness, from the point of her nose to the root of her tail—sprightly in look, graceful in figure, and full in all her proportions. She has a coat of silky hair; no matter what its color, it is agreeable. She has a full, well placed udder, and clean, taper teats. She feeds well, and pours out a yield of rich milk, in profusion. Her temper is kind, and she is every way a grateful animal to keep and look upon. Even if an Alderney, her sharp points, and peculiar outline, are so relieved by her gazelle head, and fawn-like eye, showing unmistakable lines of aristocratic blood in her lineage, that she is at once taken into one's affections as a thing to be cherished and petted."

To lighten the description by way of contrast, the common animal is thus noticed. "Look at her rugged shape, coarse hide and hair, and excess of offal in horn, dewlap, and bone. She has no redeeming feature, save in the tolerable quantity of milk she occasionally yields. She

can not become a lovable object to any one possessed of taste or an eye for the beautiful."

Pleuró Pneumonia—A Petition.

But little has been heard of this fatal cattle disease lately, and it is hoped that the prompt action of the authorities of Massachusetts and adjoining States, has resulted in preventing its spread. The isolation of affected herds is proved to have been a wise precaution. The Boston Journal alluding to this subject says:

"The occupants of the 'hospital pasture' at North Brookfield, (Mass.) numbering from 10 to 15 head of cattle, the remnants of numerous herds which were nearly exterminated last Summer, were examined by the Commissioners about two weeks since, and the disease having been proved incurable, the cattle were all slaughtered. The opinion prevails among the Commissioners that the disease will not again make its appearance."

The Commissioners have also issued circulars to the different agricultural societies in the State, recommending them to petition Congress for the passage of a law to quarantine cattle arriving from foreign countries until it is ascertained that they are free from disease, which will be a wise precaution.

Value of Carrots—One Answer.

To the Editor of the American Agriculturist.

In the January *Agriculturist*, page 11, you ask, "How much are Carrots worth for feeding?" to be answered from experience.

For the past ten years I have annually raised one or two acres of this esculent, and my custom has been to dispose of what I could at a certain price, and what could not be sold thus, to feed to my stock. My price has been usually \$12 per tun, and I have sold the greater portion of my crop at that rate.

For fattening purposes I consider this perhaps more than their intrinsic value; but for feeding milch cows, store cattle, or sheep, I doubt not they are well worth that amount as a substitute for hay, or indeed for any other winter fodder. Two feeds of a peck each, fed daily to a cow, with plenty of good bright straw, will keep her in good condition, and under some circumstances, probably it is cheaper than giving the cow all the hay she can consume.

For horses that do not labor more than one half the time, I think they are equal by measure to oats; i. e., a horse fed a peck of oats and a peck of carrots each, daily, will do as well as if fed two pecks of oats—their action being slightly diuretic and laxative, and just what the system seems to need in the winter, when they are wholly deprived of green fodder.

In our region, the raising of carrots is on the increase, and farmers are beginning to ascertain that a stock of cattle can be carried through winter with less expense, and a larger stock can be kept on the same land by a judicious growing and feeding of roots; and that instead of the two or three tons of hay required to winter a cow, one ton each of hay and roots will do it as well, or better.

WM. J. PETTEE.

Fairfield Co., Conn., 1861.

REMARKS.—We are rather surprised at not receiving more answers to our question, though when we proposed the query, we suspected that notwithstanding all the exhortations, so to call them, which have been uttered for years past, urging people to cultivate carrots, there are

really very vague notions on the subject. Mr. Pettee thinks they are worth \$12 per tun, to feed. Let us try this: At 60 lbs. per bushel, and \$12 per tun, a bushel is worth 36c., or a peck 9c. In this dear market we buy a bushel of very good "ship feed," or bran and shorts mixed, for 30 cents. A peck therefore costs 7½ cents. Now, will not a peck of this ship feed, wet and mixed with cut straw, or other forage, be better for a milch cow, than a peck of carrots? That is the practical question. In most parts of the country a very good mixture of bran and shorts can be bought for much less than 30 cents.

But on the other hand, can not carrots be raised profitably for 10 or 12 cents a bushel? Will they not pay better at this price, than corn at an average of 37½ cents per bushel? If so, how stands the profit of feeding? "The question is before the meeting for discussion."—Ed.

Use the Pen.

Seldom do we receive letters affording more satisfaction than those occasionally sent by farmer subscribers, giving detailed accounts of their works and ways. The information so gained is valuable in itself, and besides, the acquaintance so formed with our subscribers is very pleasant. It is most encouraging to us to find that attempts to instruct and please our readers, are not altogether in vain.

We therefore take this opportunity to thank our friends for past favors, and to request them to send further articles. Send accounts of experiments, in raising and fattening stock, with various crops, with new seeds or implements. Let the facts be carefully ascertained and clearly stated. Tell about your garden, your orchard, your poultry-yard, etc., relating the failures as well as the successes. Some may doubt their talent for authorship. If any shrink from appearing in print over their own names, please send communications written in the plainest style, and we will make good use of them. Even if they are not inserted, as written, they will not be lost, but will suggest topics for examination and discussion, and so will minister to the actual wants of our readers. Throw all the grain into the *Agriculturist* hopper, and it will ere long come out in the shape of food for multitudes who look to this source for part of their mental nourishment.

Notes from Illinois.

We extract the following items of interest from a letter to the *American Agriculturist*, by H. Hinckley, Assumption, Christian Co., Ill.

....The corn crop is very good, and from this little station, where four years ago was but one building besides the depot, there will be shipped this year five hundred thousand bushels of corn—perhaps more. It is now sold here by the farmers, delivered at the depot, at 20c. per bush. in the ear. It is bought by the middle men, who have it shelled at 2½ cts. per bushel, and put in gunny bags, which cost 15 cts. apiece here. The sacks are sewed, and shipped by Illinois Central Railroad, 180 sacks of 2½ bushels to each car, to Cairo, and thence by boat to the South, where it now brings at wholesale on the Levee from 68 to 75 cts. It is sold to the consumer at a higher price, and frequently costs the inland planter by the time it reaches his plantation \$1.50 bushel. The scarcity of this crop at the South the past year, has created a demand for it from the Western States, which most of them are very well prepared to supply.

The growing wheat crop looks well, and in no accident happen to prevent, will prove an enormous crop next year. I saw some Hessian fly last Fall, but not much injury. Not much old wheat remains to be sold, farmers here usually selling out immediately after harvest. Farmers are getting out of debt as fast as they can, and the severe lesson they have received, will be profited by, preventing new debts.

Experience with Potatoes—\$80 per Acre for Manure.

The following statement of experiments in the cultivation of potatoes, made by George R. Underhill, Queens Co., N. Y., was communicated to the *American Agriculturist*, by the Secretary of the Glen Cove Farmers' Club, at the request of the President, Daniel K. Youngs Esq.

Planted 4½ acres of land with Mercer potatoes in furrows 2½ feet apart. Harvested 1270 bushels. Average yield per acre 260 bushels.

Crop sold for.....	\$652.00
Cost of Manure.....	\$392.00
Expense of Culture.....	110.00
Cost of Seed.....	25.00
Total Expenses.....	\$527.00
Net Profit (\$25.64 per acre)	\$125.00

Three plots were set off, and the potatoes carefully measured, for the purpose of testing the comparative profit from the use of different kinds and quantities of manure; the results of the experiments were as follows:

Plot No. 1, containing one acre, was enriched with 100 loads New-York stable manure, and 350 lbs. guano, per acre. The manure was placed in the bottom of the furrows, the guano sowed on it, and the potatoes dropped on both, and covered with a plow. Yield 250 bushels.

On Plot No. 2, containing one acre, used 150 loads old New-York stable manure, and 350 lbs. guano per acre. Yield 308 bushels.

Plot No. 3 containing three quarters of an acre, on low damp ground, manured the same as No. 1—except four rows in which no guano was put—yielded at the rate per acre of 347 bushels.

The crops from rows in which guano was used, exceeded in value that in which there was none, at the rate per acre of\$54.00
Cost per acre for Guano..... 10.00

Net gain by the addition of the Guano...\$44.00
With the exception of three or four rows on the lower side of the damp ground, in which the potatoes were nearly all decayed, there was not a bushel of rotten ones in the whole piece. The seed used, was about the size of hens' eggs, with the chit end taken off, and cut in two pieces.

[The effects of the guano would have been more certainly ascertained, had it been omitted from one entire plot, or from equal portions of each plot. By the above statement, Plot No. 3 which was only partially dressed with guano, yielded 90 bushels per acre more than Plot No. 1, where guano was used throughout. The dampness of the ground was probably favorable during last Summer's drouth. But for the fact that the rows in No. 3, without guano, yielded less than the remainder of the plot, it might have been concluded that the 90 bushels extra were due to the omission of the guano.

Perhaps the most noteworthy thing in the experiment, is the fact that the cost of the manure was over eighty dollars per acre! This is not an uncommon thing on many places around New-York, however it may startle those who place so little value upon manure that they scarcely take any pains to properly husband what is produced in their own yards. There is

no mistake about the profit of high manuring. The above is only one of ten thousand demonstrations.—Ed.]

Truthful Hints by "Ik Marvel."

The following specimens of shrewd observation by Donald G. Mitchell, alias, Ik Marvel, we find in that grave Quarterly, the New Englander. They are extracted from an article entitled "Hints about Farming," which contains many brilliant, pithy, as well as suggestive hints.

The shrewd, hard-working farmer who is really making money at his business, seldom says much about the profitability of farming. "He loves to croak rather; he counts his business a hard one; he affects a tone of discouragement." . . . "The hens that lay golden eggs never cackle; at least we never heard them." It is the retired citizen, the amateur farmer, who is so sanguine about profits. "He loves to tell you, in a confidential way, what his last year's sales of butter amounted to, and how many tons of good English hay his reclaimed meadow will carry to the acre. He somehow seems to entertain the belief that every looker-on thinks he is spending a great deal of money, with very little return; and he is nervously anxious to talk down any such fallacy. Expenses are large, certainly; but a great many of them go to investment, he tells us. Digging rocks is heavy business, to be sure; but once out of the way, and the Michigan plow will not have its nose broken again. Trenching, too, is a thing of very saucy cost—particularly where the soil is underlaid with hard-pan or bolders; but then—what vegetables will come of it!" It is not to be denied that "For a man who is thoroughly in earnest, farming offers a grand field for effort; but the man who is only half in earnest, who thinks that costly barns, and imported stock, and smooth fences, and a nicely rolled lawn are the great objects of attainment, may accomplish pretty results, but they will be small ones. So the dilettante farmer, who has a smattering of science, whose head is filled with nostrums, who thinks his salts will do it all; who doses a crop now to feebleness, and now to an unnatural exuberance; who dawdles over his fermentations while the neighbor's oxen are breaking into his rye-field; who has no managing capacity, no breadth of vision, who sends two men to accomplish the work of one—let such a man give up all hope of making farming a lucrative pursuit."

For the American Agriculturist.

Stop the Rats.

Look at their destructive work in the crib, in the cellar, in the garret, and every where. There is a barrel of potatoes with a dozen of the top ones half eaten, and unsavory moisture coming up from the rest, that is not suggestive of cleanliness. They have disemboweled the squashes, making a clean sweep of every seed. Here are pecks of carrot chips, where the scoundrels have held their nightly revels. There, they have invaded the grain bins, and scattered the corn, oats, and wheat around promiscuously. Nothing is safe from their depredations. It is estimated that these pests cost the nation ten millions of dollars!

Think of that, readers of the *Agriculturist*! It only shows the carelessness of the producing class, that such an enormous tax upon their industry is submitted to. For a less sum, we made war upon Great Britain. Shall we not make war upon these enemies? They usually

make their attack at the foundation of a building; by rendering this impervious to them, our possessions are saved. Cribs are made secure by placing their corners upon posts three-feet long, topped with large flat stones. Dwellings and root rooms in barns are made rat proof by cementing the bottoms and walls. Cement is now about as cheap as lime, and every farmer that can afford a house, can have the cellar cemented.

CONNECTICUT.

[That's all very well, Mr. Connecticut, but what are you going to do when they insist upon staying in your hay lofts, and in the chambers of the house, in spite of your cemented walls, your traps, and even your cats. We can find no remedy short of poison, and every one who has tried this, knows what it is to have decaying rats in or around the house. There is no mistake that rats are a great bore, and an effectual, neat way of getting rid of the pests, is yet desired.—Ed.]



For the American Agriculturist.

Familiar and Useful Notes about Common Birds...III.

THE BARN OWL (*Strix flammea*).—THE FARMER'S FRIEND.

This bird may be regarded as the typical example of the Owl family. It exhibits in perfection, many peculiarities of their form and structure, such as the thick plumage, the large eye, with the discs surrounding it, and the feathered legs. It is distributed over a wide extent of country, throughout the sea-board districts. Its northern limit appears to be near the 44th parallel of latitude; thence it is found along the coast of both Oceans, as far south as Brazil. This species is not common in New-England, or the Western States, but south of Pennsylvania, is the most abundant of the family. There is an owl, widely distributed over the Eastern Continent, abundant in England, France, Germany, Russia, and the Scandinavian Peninsula, known by the same name, which some Naturalists have, with hesitation, treated as a different species, but in shape and habits it appears to be identical with our own. In color and size they do not differ more than other species upon different sides of the Atlantic, which are admitted to be identical—not so much, indeed, as the Barn Owl of Cuba does from that of California. For our purposes the European and American Barn Owl may be treated as varieties only of a single species, although slight *specific* differences probably do exist between them.

The total length of the female is about sixteen

inches; the male, as is usually the case with predatory birds, is somewhat less. It is without ear tufts; its legs are long and feathered to the toes. Specimens from different parts of North America exhibit different shades of color, especially in the under parts. In the common type, these are a pale fawn or buff color, interspersed with small spots of black. The upper parts have a groundwork of tawny yellow, but nearly every feather has a small black spot near the end, succeeded by another spot which is white. The facial discs, or rings of feathers surrounding the eyes, are nearly white.

It is probable that the Barn Owl is the most efficient exterminator known, of the smaller animals, such as mice, moles, ground squirrels, etc., which are so annoying that they are classed under the common name of *vermin*.

It is nocturnal in its habits, being rarely seen before the evening twilight. During the day it is so imbecile as to permit itself to be insulted at will by the puniest aggressor, and if disturbed, it flies in an irregular, shambling manner, as if bewildered by the light. It is rarely found in the recesses of the woods, but seems rather to prefer the vicinity of human habitations and farm yards, or fields grown up to small brush, decayed hollow trees, and above all, deserted buildings. In such localities it is certain of an abundance of its favorite food. In some obscure nook, or recess, it remains from sunrise to sunset, in nearly an erect posture, with retracted neck, and closed eyelids, dozing away the hours in which, from the structure of its eyes, it is unable to approach its prey, awaiting the return of twilight. If approached in this state it does not fly off, but hisses like an angry cat, and elicits its bill at the intruder. If forced to leave its position it seeks the nearest place of shelter from its enemies. In the evening dusk, however, it assumes a far different appearance. It then starts from its recess for some field or farm-yard where the mice or smaller animals are plenty, and with noiseless, firm, and protracted flight, explores the ground with the regularity of a highly trained pointer, sailing along the fences, over the valleys, watching every movement of a grass blade, and catching with sensitive ear every sound that issues from behind it. All its feathers terminate in fine downy margins, exposing no rough surfaces to the air, so that its flight is as noiseless as a shadow. Its vision is so acute and its motions so active, that the animal of which it is in search, rarely escapes if once exposed to view.

It is able by a process of regurgitation, to eject from its stomach all the indigestible portions of its food, such as fur, bones and feathers. These are thrown out in the form of rounded pellets, which are always found in abundance near its nest, and give to its vicinity an odor pleasant enough, perhaps, to the owl, but far otherwise to the observer.

The quantity of food which it consumes is most extraordinary. Mr. Waterton, an eminent British ornithologist, whose opportunities for observing its habits in this respect were excellent, as he several times domesticated it, says, that when it has young, it will bring a mouse or similar animal to its nest as often as once in twelve minutes. But in order to have a proper idea of the quantity of mice it destroys, it is necessary to examine the pellets which it ejects from its stomach in the place of its retreat. Every pellet which Mr. Waterton examined, he found to contain from four to seven skeletons of mice. In one instance, where it nested in an old gateway, he caused the vicinity of the nest to be thoroughly cleansed, and upon an exami-

nation some months after, when the young were fully grown, he found the place to contain *above a bushel of these ejected pellets!*

It was formerly doubted whether this owl preyed upon fish or smaller birds, but the same author says that he was standing upon a bridge one evening, minuting the owl by his watch, as she brought mice to the nest, when on a sudden she dropped perpendicularly into the middle of the stream, and shortly after he saw the owl rise with a fish in her claws and take it to the nest.

In a recently published work, in our judgment of great popular excellence, entitled "Routledges Illustrated Natural History," the author, Rev. J. G. Wood, relates many interesting anecdotes of the Barn Owl. In speaking of one which had been domesticated by a friend, he says: "It was a confirmed murderer of bats and small birds, as well as mice, and was accustomed to push its prey into a hole in an old wall, that had been occasioned by the fall of a brick. In this odd larder were constantly found a strange variety of slaughtered game. Six or eight small birds were often counted when the hole was explored in early morning, and once the owl had poked fourteen bats into the aperture. On several occasions the bird had contrived to pack a moderately sized eel into its storehouse, having always killed the eel by a bite across the back of the neck. The owl was always attracted by bright and glittering objects, and once was seen to pounce upon a needle which lay glistening in the moonshine, and to carry it away to its usual receptacle.

Its real size is much less than it appears; for its body is, in fact, scarcely larger than that of the common pigeon. It is, notwithstanding its diminutive size, a bird of extraordinary savageness of disposition. When attacked, it has an ugly habit of falling on its back and dashing its powerful talons into any animal that attempts to interfere with it; and so fiercely does it strike, that instances have been known, where a dog has been blinded by a single stroke of its claws. While its young are helpless, it watches over their safety with unremitting diligence, and will dash at any animal that approaches it, irrespective of its size, and regardless of consequences to itself.

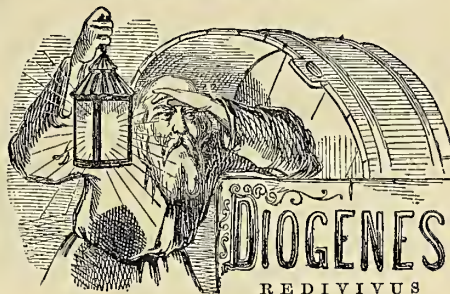
The nest is usually found in a hollow tree, and sometimes in the hole of the wall of a deserted building. The eggs are white, and generally four in number. It is said at times to be setting upon one brood of eggs while it is feeding the young of a previous hatching, but this needs confirmation. It ought to be remarked that Audubon was unable to discover any propensity in the American bird to fish, or capture small birds. We have no satisfactory authority for denying the former part of his statement, but instances are frequent where the feathers and skeletons of small birds have been found in the castings of this bird, along the coast of the Southern States.

Enough we trust has been stated to show that the Barn Owl, not only never injures the farmer or gardener, but, on the contrary, that it is very useful in the destruction of multitudes of the smaller quadrupeds, which live upon the fruits of the farmer's labors. If there is a meadow infested with moles or shrews, which are destroying the roots of the young grass or grains, or an out-house infested with mice or other vermin, and a pair of these feathered cats take up their abode in the neighborhood, instead, (as is too often the case) of effecting their destruction, the farmer ought to use as much care to protect

them from vagrant boys and vagabond hunters, as is taken in the East for the protection of the stock, or in our Southern cities of the Black Vulture.

CHITTENDEN.

Blinks from a Lantern...XXV.



VISITS A WOMAN OF HOMESPUN.

Since I announced my purpose to search for a farmer's wife, I have had my hands full. The mail has been pouring in letters from everything in crinoline that can write, until I have my tub half full of manuscripts of every size, and hue—pink, rose color, gilt edged, note size, and foolscap—in the main well covered with passable English, and abundantly furnished with I's. Nothing is in more striking contrast with my times, than these voluble letters from women. Then, women talked a good deal, and the sex had a well earned reputation for looseness of tongue. The fame of Xantippe—Mrs. Socrates in the modern style—has come down to these times, as a woman who could hold her own with her husband. But even she could not write. But in this last month, I have had a dozen letters a day, on an average, from all classes of farmer's wives, setting forth the details of their household management. I had no conception of the extent to which the cultivation of the female intellect had been carried in this country. The hand writing is not only good, but the thoughts are well arranged, and well expressed, showing that the writers understand what they are about.

In these letters, I find a great diversity of opinion as to what constitutes a farmer's wife, or what is the appropriate sphere of woman upon the farm. With many the idea prevails, that a woman married to a man who tills the farm, is necessarily a "farmer's wife," and they wonder that I should be so stupid as to go around with a lantern in search of an article that is to be found in every farmer's dwelling. If I were to be driven from my position by words, or letters, I should have been converted by the first batch of letters. But I am not yet able to see that the farmer who marries a woman, necessarily has a farmer's wife. There is something on this point well worthy of consideration, in a very old book, that I find very common in this age, though I never saw it while in the flesh. The woman was to be a "help meet," and as I understand it, the farmer, though he have a dozen women around, has no wife until he has found some one to *help* him along in his business. She must enter into his sympathies, love the sight and smell of green fields, the blossoming of grain and grasses, must hear music in the bleating of sheep, and the lowing of kine, and in all the voices of the farm-yard, from the opening of the Spring to the closing of Winter. She must be deep in the mysteries of curds and cream, yeast and pastry, needle-work and knitting. In short, she must not rely upon her tongue as the chief glory of her woman-hood. In the farm-house there is work for the hands.

I was revolving these thoughts in my mind, as

I obeyed the summons of an old gentleman to come and see his wife's housekeeping. He had stated, in his letter, that he had made all his property by the prudent management of his wife, had brought up his children, and worked into a comfortable competence at the age of seventy years. I found the house, where he lived, a neat one-story dwelling, painted white, with a long 'L' at one end, in which were the well, wood-house, hennery, earriage-house, and work-shop, each having a separate apartment, and communicating with each other upon the inside. Every thing was arranged for convenience in doing the housework, and I found both the old people still living in the age of homespun, though it has been gone in most parts of the land, full forty years. The farm was located a dozen miles from the nearest railroad depot, and it was the boast of them both, that they had never been inside of the cars, or upon a steamer. He said the old horse and carriage had never burst their boiler, or run off the track, and he rather guessed they were about as safe as any of the modern inventions for traveling. For his part, he never could see what folks wanted to be in such a hurry for. They were certain to get through life soon enough without going thirty miles an hour.

I found the fundamental principle in their idea of business prosperity was, to make every thing that can possibly be made upon the farm, and buy nothing that you can possibly do without. Both had acted strictly upon this principle. They began life with it, before science had come so wonderfully to the aid of labor, and manufacturers had so cheapened all the articles of domestic use. They were somewhat set in their notions, and their location, remote from the centers of social influence, had favored the development of their individuality. They never could see that a "boughten" thing was as good as a thing made at home. It might look a little better, in some cases, they admitted, but it had not the *wear* in it.

The old gentleman, though sensible on most other topics, could not be made to see the advantages of the division of labor, and of trade. He had made all the "L" part of his house himself, had done his own painting and glazing, had made his own carts and sleds, harrows and stone boats, yokes and cart ladders, and the shed where the tools were housed. He had been thinking of putting up a blacksmith shop, where he could do all his own tinkering, but he had now got to be almost too old.

I found the old lady in her loom, weaving "all wool" as she called it, for her winter wear. She took great pleasure in showing me her spinning wheel, where all the warp and woof of her fabric had been spun. She said she used to card all her rolls herself, but the last few years she had carried them to the carding machine—it saved so much labor. It had not occurred to her that she could save still more if she would only make kindling wood of her wheel, and loom, and buy the cloth she wanted. I hinted as much, but she said she had the time to weave, and she could not do much else to advantage. I suggested butter making, raising eggs for the market, and divers other things that were in the line of a farmer's wife. Well, she said, she made all the butter she could in the summer, but the cows would not give milk in the winter. I suggested warm stables instead of a stack-yard, and roots and meal with clover, instead of eorn butts and red top. But this was new doctrine, and she looked incredulous. She said she had read a good deal in the papers about milk

and eggs in the winter, but she only got enough for family use.

In the milk-room the homespun theory was carried out to perfection. There were wooden milk pails and linen strainer, and milk trays of beech and poplar, as if no peddler with tin-pans and milk pails had ever invaded her dwelling. The cheese press was evidently of home manufacture, and I looked round half expecting to see wooden cheeses upon the shelf; but these manifestly were made with all the cream in. She had learned her dairying before wooden hams and nutmegs were invented, and cheese, with her, meant all that could be pressed solid out of new milk into a cheese hoop. "Martha Gregg's cheeses," she said, "were known in the market, and she never had one sent back in more than forty year."

The homespun idea ruled through the house. Her coffee was systematically pounded in a mortar, because she preferred it to a coffee mill. She had seen one of the things at her daughter Susan's, but she did not like the noise of it about the house. She believed in Johnny cakes baked upon the head of a flour barrel, and in rye biscuit fresh from the good old fashioned bake kettle, that would hold coals upon the top. She had never come to a stove yet, did not think they were healthy, though she supposed they saved a good deal of wood. Her husband raised his own wheat, and had done it ever since they had kept house. She thought the unbolted meal made the most wholesome bread that was ever set upon the table.

A very interesting relic of the olden times was this woman of homespun. We get a better idea of the progress of agriculture, and of society in the farming districts, from such a household, than it is possible to form in any other place. The adage of the age of homespun, "make every thing you can, and buy only what you must," was admirable in its time. But, with the advent of machinery, and the thousand new uses for human muscles, another law must rule upon the farm and in the house. "Make only what you can make best, and buy whatever you need," is now sound doctrine. Farming has become a science and a trade; and skill in buying and selling is one of the secrets of the farmer's thrift. His wife should not overlook it. What can she make best?

Pulverize the Manures.

Few farmers comprehend the importance of attending to this item in the preparation of their stock of fertilizers. They are often carried to the field in the Spring, in the coarsest form possible, the hay and straw not fermented at all, and the coarse clods carried in to the yard last Summer, not broken. They are spread in this state, and the large lumps are plowed under so that they are not immediately available for the sustenance of plants. Plants feed mainly at the extremities of the rootlets, through mouths too small to be seen by the naked eye. The finer the manure is made, the more easily it is dissolved in water, and the sooner it passes into the circulation. This doubtless is one reason of the almost immediate visible effects of Peruvian guano. It has been passed through the digestive apparatus of birds, and reduced to a much finer powder than it could be by any mechanical means. So small a quantity as a hundred pounds, spread upon an acre of mowing in a wet May day, will improve its appearance in a very short time.

All observing farmers have noticed that the finest and most thoroughly worked compost,

other things being equal, gives uniformly the best results. The minute division of the particles is favorable to the chemical combinations that take place in the soil. It becomes much sooner available, and the cultivator gets an earlier return for his investment in fertilizers.

Fortunately, at this season, we have a very powerful agent that we can put to this work of comminution without any expense. The frost, with a fair chance to work, is better than any elod-crusher or mill to powder a compost heap. One of the best means of economizing frost for this purpose, is to plow up the yard whenever there comes a thaw, or say twice a month. Every turning of the contents of the yard exposes new surfaces to the action of the frost. We have found it a very profitable employment to fork over the compost heaps in the barn cellar, and in the field, during the Winter. Where the heaps are large, this can be done quite rapidly, even in freezing weather; and the more it freezes and thaws, the finer it becomes. Heaps thus turned and thoroughly beaten up with a shovel, come out in the Spring, a fine homogeneous mass, good to spread and plow in, admirable for dropping in the hill, and first rate for top-dressing grass land.

Good Corn in Connecticut—The "Argument Acre."

James H. Linsley, Litchfield Co., Conn., adds an interesting P. S. to a letter renewing his subscription to the *American Agriculturist*—in substance as follows: "Although not a farmer, I feel interested enough in agriculture, to try to show cultivators how much better they might do; and I think I have succeeded. Last season I planted corn on a lot containing 2½ acres, which had been begging for a purchaser at \$30 per acre. The expenses were as follows:

Digging Stone and making wall.....	\$160
Manure.....	60
Cost of Tilling and Harvesting.....	50
Total.....	\$270

RETURNS.

220 bushels shelled corn @ 75 c.....	\$165
11 Cart loads fodder.....	50
Balance against the crop.....	\$55

This looks like losing money; but the land would now sell quickly at \$150 per acre and pay 10 per cent interest at that price. This changes the appearance of the account thus.

Increase in value of 2½ acres of land.....	\$315
Deduct Balance above.....	55
Profit, (about \$98 per acre).....	\$260

This seems, and is, a large show, and some in my neighborhood doubted the statement, until I exhibited the pile of corn, which satisfied them."

Such an argument tells in favor of improved culture, or "book farming" as it is often styled, more than volumes of essays. Let like facts be multiplied. Set aside a small plot and try high farming upon it. If judiciously treated, the returns will very likely give it the name of the "Argument Acre."

How Thistles are Disseminated—An Important Suggestion.

To the Editor of the *American Agriculturist*.

You would do the community a good service by cautioning them against introducing the Canada Thistle with their fruit trees. The straw and litter used by many nurserymen in packing trees, contains thistle seed, and unless it be burned as soon as the trees are unpacked, they are quite sure to find a lodging place, and perhaps cover the farm. A neighbor of mine received a lot of trees from a Northern New-York nursery last

Fall, which were packed in straw full of Canada thistles, with much of the seed still in the burr. Had he not been acquainted with the pest, his premises would soon have been covered with it. There should be a law against using anything containing thistle seed, for packing trees. To show how difficult it is to exterminate a patch of thistles when once established, I will mention a spot in my neighborhood, which, though mowed every year, when in bloom, is rapidly spreading.

GEO. BEAVER.

Perry Co., Pa.

[Cutting but once a year will never exterminate the Canada Thistle. There will be vitality enough left in the rhizoma, or underground stem, to propagate it. Cut it down once in three weeks, or as often as the stalks are high enough to be reached with the scythe, and in a few seasons, at most, it must succumb.—ED.]

For the *American Agriculturist*.

Composting Night Soil—Its Value.

MESSRS. EDITORS:

You remember that premium corn crop of mine last Fall—96½ bushels to the acre, on a three-acre lot. If you don't, I do, and the splendid growth of the stalks, and the remarks of the neighbors upon that piece of corn, as it pushed right on through the drouth, as if it had a rain every night, and as much food in the soil as it could dispose of. The thing that carried the day with that corn, was *night soil* in the hill, and I prepared it for use thus:

The farm is only a mile from the village, where I market my wood, milk, butter, and all other farm products. The night soil could be had for the carting—indeed, most people would even pay something to have their privies cleaned out now and then—and I had a box rigged for the purpose, holding about one-third of a cord, and fitted into a horse cart. The box has a trap door on top for receiving, and another behind for discharging the contents. These doors are made to shut water tight, so that the box can be carried without any leakage. Hard coal ashes also can be had in the village for the cartage. I have often tried them in the garden, and upon the meadow, and think they will pay for carting a mile, to spread upon any moist land. They are one of the best absorbents I have ever tried. I procured a large heap of them last winter, and had them stored under a shed. When the night soil was brought, I made a layer of the dry ashes, about a foot thick, elevating the edges so that the water could not run off, and dumped several loads into it. The quantity of water these ashes will absorb, is astonishing. No accurate measurement was made of the relative quantities of each, but it was not far from two parts of ashes to one of night soil. The whole mass was shoveled over twice, mixing the parts intimately, and left in a pile until the corn was planted, the last week in May. The mixed soil lost its strong smell, becoming nearly inodorous after the first working over, and, at the time of dropping, was about as dry as coal ashes, and handled with as little inconvenience. A handful of this mixture was dropped in the hill, and the result was, the best crop of corn I ever raised.

To be sure the ground had other manure. I believe in using that article, and all the money I have made in farming, I have made in that way. I had about ten cords of good compost plowed in to the acre, and seldom take a crop from the land where I do not use as much. The night soil did the rest, and I think at least thirty bushels of the grain to the acre was made by

this application in the hill. I doubt if any of the concentrated manures, at equal cost, would have done so well. Cultivators living near cities and villages, have their cheapest source of fertilizers, off of the farm, in this article. With suitable apparatus for carting, it is readily handled, and the great objection to its use is avoided. If the dry ashes are not conveniently obtained, dry muck, if worked over and made fine, is quite as good an absorbent, and has in itself more elements of fertility than the ashes. In the absence of muck, any dry earth, saw dust, or spent tan can be used, though they are not so good as muck. The *poudrette*, *tafeu*, etc., sold to cultivators, are mainly dried mixtures of black muck with night soil gathered in the city.

We see, from the experiment, that it is not necessary to wait a year, or more, for the noxious effluvia to be dissipated, before applying night soil to crops. Prepared in this way, it is inoffensive as any fertilizer, and does not burn the seed, or make it rot. It acts at once upon the germinating seed, gives it a fine vigorous start, and pushes it along rapidly, until it is out of the way of the worms, and reaches the main body of manure plowed in. It is readily prepared at this season of the year, when other work is not pressing, and no better use can be made of the time.

CONNECTICUT.

Experiment in Grass Culture.

An old agriculturist gives in the "Mark Lane Express," (England), the following accidental experiment in grass culture. In laying down land to permanent grass, he found the first year's growth invariably the best; and that afterward the coarser grasses choked out the finer sorts. Many years ago his hired man mistook orders, and accidentally plowed nearly half an acre in the wrong field. This was in the Fall, and the land remained with the roots of the grasses thoroughly exposed to the atmosphere throughout the Winter. In the Spring it was carefully turned back and rolled. By this means the quality and quantity of the grass were so greatly improved, that the exact line, where the plow had gone, might be easily seen for years afterward.

Deep Plowing—Testimony of the Corn Crib.

In the July *Agriculturist*, last year, page 206, was published a statement from a Texas subscriber, to the effect that corn planted by him on ground plowed 15 to 20 inches deep, was looking badly, while that on land merely scratched over, appeared thrifty, and an opinion was asked as to whether the surface work were not better for that section. We replied, that though the plow might have been put in too deep at one time, yet, should a drouth occur, the benefit of thorough working would be seen; and requested to hear the testimony of the corn crib in the Fall. We have just received a letter from the same gentleman, stating that he is a thorough convert to deep plowing. A severe drouth came on, shriveling and destroying his corn and that of his neighbors, on land which had only shallow culture, while that on the deeply plowed field stood up bravely, came to maturity, and gave a fine yield. It is well here to repeat the caution that the soil should generally be deepened *gradually*, say an inch or so at each plowing, particularly where the subsoil is unfit for growing plants; in time it will be ameliorated by the atmosphere.

Ohio Crops in 1859-60.

According to the late Census Returns from Ohio, as published in the State Journal, the yield of the agricultural staples was less than was expected from the reputation for fertility enjoyed by that State. The farmers or the figures must be at fault. Judging from what has passed under our own observation, the value of such statistics has been greatly impaired by the carelessness of some of the marshals. But here are the statements.

	Acres.	Bushels.	Average.
Wheat.....	1,790,677	13,345,844	7½
Corn	2,339,204	69,372,343	39
Rye.....	98,011	662,065	5½
Barley.....	102,792	1,639,388	16
Oats.....	644,954	15,055,059	23½
Buckwheat.....	149,645	2,222,083	15
Meadow.....	1,340,566	tuns 1,365,888	tun 1

The largest average of Wheat was 17 bushels per acre, in Ottawa Co.—Erie, Sandusky, and Lucas gave 16 bushels each, while Trumbull yielded but ½ bushel per acre, and Mahoning ½ bushel. [There must be some mistake here.—Ed.]

The Corn crop averaged 42 bushels per acre in Lucas Co.; 38 in Preble; and 37 in Lake, Butler, Ross, Pickaway, and Warren. The smallest average was 15½ bushels, in Carroll Co.

Poisonous Mushrooms.

At a recent coroner's inquest at Ipswich, England, the jury gave verdict: "Death caused by eating poisonous Mushrooms;" and recommended that great caution be exercised by persons eating this article. Dr. A. S. Taylor, in his work on Medical Jurisprudence says "there does not appear to be any satisfactory rules for distinguishing the wholesome mushrooms from those which are poisonous, and in some persons even edible mushrooms will produce disorder of the stomach and bowels. The English Gardener's Chronicle alluding to the above case, remarks that not only is it difficult to distinguish the wholesome from the poisonous mushrooms, but that there are other families of plants, a portion of which may be eaten with impunity, while others are injurious, as for instance the Brazilian Cherry (*Physalis Peruviana*), and the Deadly Nightshade, both of which belong to the solanacea or potato family.

The discrimination of wholesome from unwholesome productions of this class is a matter of experience, and no one is safe in the use of any vegetable substance whatever without such a degree of information as shall preclude all reasonable chance of error.—*Am. Agriculturist*.

Grape-Growing on Kelley's Island.

The Ohio Cultivator contains an account of the grape culture among the inhabitants of Kelley's Island, in Lake Erie, near Sandusky. It appears that the number of acres planted previous to 1859 was 62; in 1859, 69½ acres; and 99½ acres in 1860, making in all 230½ acres.

The largest amount owned by any one man is that of Addison Kelley, 23½ acres. Mr. Carpenter has 11½ acres, nearly all in bearing. He is devoting much attention to the manufacture of wine, and is experimenting with the new varieties of grapes as the Delaware, Diana, Concord, etc., some of which he believes will supersede the Catawba and Isabella, both for wine and table use.

The first cultivated grape vines planted on the Island 17 years ago, are still vigorous, and for fifteen years have not failed of a crop of fruit. The value of the grape crop in favorable seasons is found to average about \$600 per acre.

The cost of fitting and preparing the ground, including under-draining, deep-plowing, planting, cultivating for three years, and trellising, is set down at \$300 per acre. The vines are planted in rows six by eight feet apart and trained to trellises made of strong wire stretched upon cedar posts. More wood and leaf is allowed to the vines than is commonly done around Cincinnati.

For the American Agriculturist.

Green-Houses for Invalids.

Many years ago, an article appeared in the Horticulturist, written by Dr. Stevens, of N. Y., on the benefits of Green-Houses to pulmonary invalids. He claimed that the air of these glass structures tended to abate one's cough, rendered expectoration loose and easy, softened the skin, and induced a comfortable state of feeling, approaching to exhilaration. He even grew eloquent over his theme. During the sunny hours of a Winter's day, the good doctor could imagine himself in Cuba, the air was so warm and genial, and so full of the aroma of flowers. He recommended such places to pulmonary invalids as preferable, under most circumstances, to the expensive plan of removal to the South, involving, as that does, much discomfort, interruption of business, hazardous exposure, and entire separation from friends.

Now, this is all very pleasant to read and think about, and if it were true, would furnish a new recommendation of the higher forms of horticultural employments. But the trouble is, it is not true. The atmosphere of a well-appointed green-house is loaded with moisture, caused by evaporation from the foliage, and by the frequent sprinkling and syringing of the plants, the stagings, and floors. Of course, an air so charged with vapor, and with more or less effluvia from decaying vegetation, and with aroma from flowers, is not wholesome for a consumptive patient. And if, as is sometimes the case, the temperature is raised to a high point, the system becomes relaxed by it, the body is penetrated at every pore by the excessive moisture, and a severe cold is sure to be contracted.

The writer speaks from the experience and observation of several years. Green-houses are very attractive places to the lovers of flowers, and may be safely visited by invalids for a short period at a time; but as for their being desirable places of prolonged resort for the sake of the salubrity of their atmosphere—a substitute for the climate of Florida or Cuba—it is a grand mistake to suppose it. No: the pure, bracing air out-of-doors is vastly better. Guard against cold-catching by being warmly clad and shod. Then sally forth in all weathers. Mount your horse: the saddle is better for pulmonary folks than a rocking-chair. The air of the hills is better medicine than the confined, artificial air of a green-house.

EXPERIENCE

YIELD OF BERRIES PER ACRE.—A writer in the Ohio Cultivator says that two thousand quarts per acre is not an uncommon yield for the first crop of the American Black Cap Raspberry, and that an average yield of three thousand quarts per acre can be obtained by a careful selection of plants and good culture. This, however, does not equal the strawberry crop of a farmer in North Eastern Ohio, whose average product this season from about thirty varieties was at the rate of 2,240 quarts per acre, whilst Monroe Scarlet, Moyamensing Pine, and Wilson's Albany, gave 5,000 quarts per acre.



STUARTIA PENTAGYNIA, AS GROWING AT FLUSHING, N. Y.
(Drawn and Engraved for the American Agriculturist.)

With all the rage for foreign novelties prevailing around us, the natives of our own soil are too frequently forgotten, although held in high esteem abroad. Many of these would be "real acquisitions" here, were they imported at great cost from Japan or China. For many years a charming evergreen shrub from America has given a summer freshness to the winter landscape of England, and its parks and gardens in Summer are brilliant with the flowers of the Rhododendron. No exhibition of one family of plants has power to bring out the aristocracy of England, like the June exhibitions of these shrubs in Regent Park. The Kalmia in its varieties, is second only to the Rhododendron in the appreciation of Englishmen, while our Andromedas, Azaleas, and other flowering plants occupy a high place in their regard.

Among other plants valued in Europe, yet scarcely known here, is the *Stuartia pentagynia* (shown at Fig. 1), a shrub of great beauty, found in the mountains of Tennessee and Virginia. Its great scarcity has kept it out of the general knowledge, and it is only within a few years, that it could be found in the nurseries in any quantity. Many have often looked with admiration on the fine specimen, standing in the nursery of Parsons & Co., Flushing, from which our drawing is taken. Its branches commence about a foot from the ground, and form a round compact tree, or shrub, ten feet in height, and about ten feet in diameter.

In August, when but few plants comparatively, are in bloom, this bush or tree is uniformly loaded with large white flowers, 2½ inches or more in diameter, saucer-shaped, with purple centre, and the edges of the petals crimped. A drawing of the blossom, reduced in size, is shown at Fig. 2. It has a general resemblance to the flower of the Magnolia, beside which, we know of no hardy tree or shrub, whose flowers can compare with it in beauty.

When once known, it will be considered as indispensable as the Magnolia in every garden, where a few good things are only wanted. It will grow in any good soil, is perfectly hardy,

and is suitable for any locality. It will probably reach a height of fifteen feet. It is readily propagated by layers and offsets, and will doubtless soon be found in all extensive nurseries. Ranking in size between the trees and dwarfed shrubs, the appropriate place of the *Stuartia* in the landscape will be somewhat near the dwelling, or among the main avenues and walks of the lawn. Its well proportioned head, fine foliage, and beautiful bloom, should secure it a prominent position. There is another variety, the *Stuartia Virginia*, which does not bloom as freely as this, and is somewhat tender.

Experience with the *Tritoma Uvaria*.

As this plant, which was referred to in our last Volume, (page 177, June No.), has hitherto been somewhat of a stranger in this country, we have not been able to speak of it from much experience. The following notes give the result of one season's observation.

Our specimens were bought from the nursery in May, and set in the open ground, the first of June. After a little coaxing, they began to grow, becoming more and more luxuriant as they felt more of the mid-summer's heat. In August, one variety began to show a blossom-bud—a conical, green protuberance, the size of a man's thumb. The flower-stalk elongated, week by week, until by the first of September, it had risen two feet or more high. Then the huge bud became resolved into a cluster of buds. Each individual flower resembled the common scarlet trumpet honeysuckle, or some of the Penstemons. The color was a rich orange scarlet. There were perhaps fifty or more of these, compactly clustered around the upper end of the long and upright stalk.

The lowest tier of buds opened first, then those above, and so on, until all passed away,—the whole time of the blooming of a single stalk being about a fortnight. The general testimony of all who saw these plants was, that if the flowers are not strictly beautiful, in the sense a rose is, they are certainly very peculiar, and brilliant. Before the first blooming-stalk had faded, a second began to shoot up, which matured its flowers the latter part of September, and continued to bloom uninjured by the frosts, into the month of October. Late in October, as one of our plants showed another flower-stalk, we took it up and potted it, with very little care, and set it by the chamber window of a carriage-house, to see what it would do. To our surprise, it did not flag at all, but kept on growing, leaf and flower-stalk. Let it be noted here particularly—as showing the toughness of the plant—that in replanting it, we shook off the soil from the roots, broke off several offsets from them, and potted the same, and then crowded the mother plant into a four-quart pot, with no tender handling. And yet it took no affront at our rough treatment. A week or so afterward, seeing that it was bent on blooming, we took it into the house, where the buds opened finely, and adorned a parlor window with a flaming



Fig. 2.—FLOWER OF THE STUARTIA, REDUCED IN SIZE.

plume for several weeks. Not wishing to tax it any longer, we then removed it into the cellar for a winter's rest, where it now remains.

Before the Tritoma had been tried, it was feared that it would not bloom at the North until just at the coming on of frost, and then would be cut down. But experience shows that some varieties of it flower early in September, and thence on through October, *not in the least injured by frequent and hard freezings!* And, if this is not enough, it may be potted and made to flower in the window for another month or two. We confess that we think highly of this plant, and would recommend it to all who do not possess it. Whether it will prove hardy enough to endure exposure in our northern winters, is yet to be ascertained. A friend of ours is trying the experiment this year, and we shall watch it and report progress.

Ripening the Isabella Grape.

A subscriber, J. P., has a row of Isabellas on the south side of his barn, which "ripen only once in two or three years, and then the ripeness is more in name than in flavor." He wishes to know how to provide a glass covering for them, to expedite their maturity.

Reply:—Build a rough frame of scantling, say ten feet high, leaving a space of two feet in front of the vines, for good ventilation, and a roof sloping at almost any angle, up against the side of the barn. Divide this frame into convenient sections for receiving the sashes, which may be fastened in place by screws. A portion of each sash, or every other sash, may be hung on hinges, to be opened at mid-day, and closed at night. If these frames are handled with care, and removed to some dry loft during the Winter, they will last many years.

But we should hardly think our friend, living in southern N. Y., or northern Penn., would need such frames at all. And, after reading his whole letter carefully, we advise him to try some other remedies first. He says his vines "have not yet been fruitful enough to pay for the trouble of fall-pruning and laying down." If by this, is meant that they *have not* been pruned or laid down, the fault may lie there. Or, the work may have been imperfectly done. We do not see how he could go amiss, if he has read our instructions respecting it. Prune back to two buds (in the spur-method,) lay down the canes carefully, and cover them with litter or soil just enough to conceal them: no more.

His vines "have had no Summer pruning." Of course, they should have received it, and especially as the border has been made so rich with "stable manure, poudrette, and ground bones," thus forcing the vines into an excess of wood-making, and decreasing the yield of fruit.

He says again; "The barn having no eaves-troughs, may have kept the ground too damp; and in addition to this, there may have been too much extra vegetation allowed upon the border, such as lettuce, cabbages, blackberry-vines," etc: all of which would abstract a portion of the nourishment, thus robbing the vine.

Then don't order any glass frames, yet awhile; but first, order a good eaves-trough for the barn, and perhaps a drain for the garden. Least of all, can grape vines stand with wet feet. The lettuce may do no great harm on the border, but the blackberry vines and things of that sort should be rooted up at once. If he heeds our suggestions, we shall be glad to hear from him as to the result.

Which are the Best Apples?

AN IMPORTANT REQUEST.

We have a proposition to make, which, if generally responded to by individuals, and by agricultural and horticultural, or pomological societies, will, we think, result in a positive good to the country, as well as to our individual readers. It is well known that there is a great diversity of opinion as to what varieties of apples are best adapted to general cultivation. This diversity results in part from the fact that a variety which succeeds well in one part of the country, does poorly in many other places. We propose that one or more apple growers in every locality where the *Agriculturist* circulates (and that will include nearly every county in the United States, and Territories, and in the British Provinces) should consult with his neighbors, and decide the following questions and send us the result of their deliberations:

A. What *three* varieties of early or Summer apples do you consider the best in your locality?

B. What *four* varieties of Autumn apples do you consider the best in your locality?

C. What *five* varieties of Winter apples do you consider the best in your locality?

In deciding these questions, the general value of the apples for home use and for market, should be taken into account; also the vigor, hardiness, and rapid growth of the tree, the length of time it has been tried, etc. Let the reports, so far as possible, be free from individual caprice, taste, or personal interest. The united voice or majority report of county or town societies would be desirable, but where no such society exists let us have the reports from individuals. We propose to make up a table occupying a page or two of the *Agriculturist* in small type, which shall show, at a glance, what apples are held in the highest estimation in various parts of the country. We would like reports from remote points—from Maine to the furthest Western Territories (including the Pacific Coast) where the apple has been cultivated long enough to render an opinion practicable. It will be readily seen that such a table will be of great value to those who are inquiring "what trees shall I plant?" If we can get in reports enough to make a beginning, we will publish partial tables, at first, in the March, or at latest in the April *Agriculturist*, to aid in the Spring selection of trees. In all cases, please adhere to the following order, putting on separate slips the report for each season, so that we can classify them. So far as possible, give the leading name of the apple as adopted in Downing's, or other standard fruit books. Put the best apple in each class against 1—the second best against 2, and the third best against 3, etc., and name the best sweet variety.

A. SUMMER APPLES.

Name of Reporter, County, State.	Names of Apples.
.....	1
.....	2
.....	3
.....	Sweet

B. AUTUMN APPLES.

Name of Reporter, County, State.	Names of Apples.
.....	1
.....	2
.....	3
.....	4
.....	Sweet

C. WINTER APPLES.

Name of Reporter, County, State.	Names of Apples.
.....	1
.....	2
.....	3
.....	4
.....	5
.....	Sweet

YOUNG ORCHARDS need an occasional visit at this season. Any trees swayed down by the

winds, should be straightened up, and tied to stakes with wisps of straw. Notice if the mice have attacked the bark around the trunks. If so, raise a mound of earth a foot high around each one; it will also protect against excessive frost. Level these mounds in the Spring.

Notes on the Newer Grapes.

To the Editor of the *American Agriculturist*.

In answer to your inquiry on page 309 in Oct. No., of Vol. XIX, in reference to grapes, I give my experience in this region.

Delaware will not ripen four weeks earlier than *Isabella*, nor more than two, sometimes perhaps three. *Anna* does not ripen with me at all, although I have had it in bearing three years. *Logan* is not quite equal to *Isabella*, but is ten days earlier, a hardier vine, and a good grower. *Taylor*, or *Taylor's Bullet*, is perfectly hardy, and free from disease. I deem it equal to *Delaware* in quality, while it will outgrow it, two to one. *To Kalon* is a splendid and excellent grape, but it rots with me too much to warrant extensive planting. *Wilmington* is a good white grape, but it seems almost an impossibility to grow it from eyes or cuttings. I have one vine of it, which has a real native foliage. I have seen and tasted some 30 varieties of *Rogers' Hybrids*, and I think the size and excellent quality of some of them will place them among the best in the country. Another grape, the *Alvey*, will prove one of the best. But such has been the deception practised of late years in this branch of business, that we must show the fruit several years before the public will trust it. I have spent hundreds of dollars on trash, and now can go to work and graft the vines over. This hunting up every new grape that I could hear of, had become a *mania* with me, but the fever has left me entirely.

In conclusion I would state that in *my* opinion there are two grapes now under cultivation quite equal to the *Delaware*, and one superior. The former two are the *Raabe* and *Taylor*, the latter, the *Alvey*. S. M.

Calmdale, Pa.

Harvard Grape.

A friend living in Brooklyn, N. Y., some time since sent us a small box of white grapes under the above name. The vines have been sold about here, with the following description: "Originated in Connecticut; is perfectly hardy; bunches of medium size, compact, often shouldered; berry medium to large, very sweet, not musky, very aromatic, color light green, reddish where exposed to sun: ripens last of August."

A truthful description of the bunches sent here, is as follows: "Clusters small; berry medium to small, of a light green color, *very foxy*, with a close pulp, skin thick and tough; the whole no better than one half the wild grapes of Connecticut, of which it is doubtless a variety; or it may be the 'Massachusetts White Grape.' It is unworthy of culture."

VEGETABLE CURIOSITIES. A. Benton, Richland Co., O., writes to the *American Agriculturist*, that a vine sprung from a self-sown summer squash seed, grew flat instead of round, spreading out nearly a foot wide in the thickest part. On this the squashes grew in clusters as thick as they could stand. There was also a curious freak among the cabbage stumps set out for seed. Five or six of them produced from two to four heads each, instead of seed.

Try Mulching.

By *mulching*, the inexperienced reader will understand that we mean the placing of leaves, straw, refuse hay, grass, or other material, upon the surface of the soil, around the base of fruit trees, and various other plants. We hope every reader of the *Agriculturist* will look into the benefits of this process. It is possible, doubtless, to over-rate the importance of the practice, but there is little danger of it. To our view, it is one of the most useful processes in orchard and garden culture. Of course, it is not to be employed without regard to time and season. Its value appears chiefly in times of drouth, preserving a healthful moisture of the surface of the soil. It also saves hoe-labor in keeping down weeds and scarifying the earth about trees and plants.

If a fruit-garden is not carefully tilled in mid-summer, the ground becomes hard and dry, and an army of weeds invade it, which by the evaporation from their leaves pump the soil still drier than it would be if bare of vegetation. But cover the ground between and around the trees with a few inches thick of forest-leaves, or straw, or tan-bark, and the soil will continue moist, and few weeds will appear. The trees, too, will make a better growth.

Yet mulching should be applied with some care and discrimination. For instance; it should seldom be used in early Summer, except in the case of newly planted trees. From April to June, it would be better to keep the soil clean and loose with the cultivator and hoe; for, if covered earlier, it would keep out the genial heat of the sun, and so retard the growth of both leaves and roots. Wait until the ground gets well warmed and vivified, until the manures have been well worked into the soil by the hoe, and until the ordinary rains and dews of early Summer seem insufficient to keep the ground properly moist: then put on the blanket of leaves, or straw, or refuse hay, or cut weeds. So treated, it will matter little whether it rains or not, for several weeks at a time, for the mulch will arrest the moisture always rising from the subsoil, and prevent its evaporation. The hoe, too, may cease its fight of the weeds for a long time.

Again; the mulch should, in most cases, be removed before the close of the season. If kept on late into Autumn, it will serve to keep the ground about the roots of the trees warm and moist, and so excite continued growth at a time when it should have ceased, and the forces of the tree be spent in ripening off its wood preparatory to Winter. The neglect of this precaution may account, in part, for the winter-killing of many fine dwarf and other pear trees. There is another reason, too, for this; if the mulch of hay or straw be left around young trees in Winter, it will be quite sure to afford a nesting-place for mice. Let it then be removed, say about the middle of September or first of October. Early in November, supply its place with a hillock of common soil around the trunk, to repel vermin.

As already intimated, mulching is very important in the case of newly planted trees, shrubs, and vines. The mangled roots very soon send off all the moisture they possess, or can gather from the surrounding soil, and it is very important to supply their lack artificially, until they get re-established, and in a condition to gather water for themselves. This can be done, either by watering the roots frequently, or by mulching them. The first method every experienced planter knows is open to many objections: it is an unnatural remedy, it usually

packs the ground too much, it is laborious, and is not always successful. The latter has everything to recommend it: it is nature's plan for protecting roots, it is easily and quickly done, and is generally successful. Water may perhaps be wisely applied once, at the time of replanting, but it will seldom be needed again. Among deciduous trees, there is none that demands this treatment more than the cherry. From neglect of it, many fine collections perish every year.

And if deciduous trees require mulching, much more do evergreens. Their foliage always fully expanded, serves to evaporate the moisture of the roots very fast. At the time of re-setting, they should be plentifully watered, and then the soil over the roots should be covered with leaves and flat stones to keep them down, or with spent tan-bark. With this little care, even the fastidious Hemlock will accommodate itself to new soils and exposures. For shading the ground about newly planted shrubs, grape-vines, strawberries, cuttings and the like, nothing is better than chopped straw, or (which looks better) newly mown grass. If water is applied soon from a watering pot, it will make the mulch lie flat upon the ground, and it will remain there all Summer.

Highland Cranberries.

It is claimed by many, that the common bog-cranberry can be grown on upland, provided the soil is somewhat moist, is dressed with a coating of sand, and afterwards properly tilled, etc., etc. In a late meeting of a Farmers' Club, which the writer attended, a gentleman who had just visited New-Hampshire, remarked that his friends in that State showed him cranberries which they had gathered in a wild state from the sides of their hills and mountains. This remark was received with looks of incredulity on the part of several present.

In a recent Maine Farmer, we see it stated on the highest authority that there is a variety of the cranberry known as the mountain-berry, which grows wild on the waste mountain lands of Washington county. It is known to botanists as *Vaccinium Vitis Idæa*, and to the common people as "mountain cranberry," "rock-cranberry," "cowberry," etc. It grows abundantly on the sides of the White Hills, and on the summits of other mountains in Maine, and portions of Massachusetts. In the eastern parts of Maine, they are common, and are gathered by the Passamaquoddy Indians and other white Indians, and brought into market. They are smaller than the lowland cranberry, but of a pleasant, acid flavor, and by some preferred to the others. If this be so, would it not be well to introduce this highland cranberry into other parts of the country? It would doubtless succeed where the lowland variety is raised with much difficulty. *

The Privet not Hardy.

There seems to be a difference of opinion in regard to the hardness of this shrub. It often grows 5 or 6 feet high without injury, and then dies out in patches. In the City of Buffalo, N. Y., we have seen extensive hedges of it, which were, for many years, the pride of their owner, but at length were so badly bitten by the frosts of several Winters that they had to be rooted out and thrown away. We have seen some handsome specimens of topiary-work, or shrubs cut with the shears into fantastic forms, in privet, near Utica, which after a fine display for a few years,

were cut to the ground in a single Winter. And again, in other parts of this State, we have seen hedges and screens of privet remaining perfect walls of verdure for a dozen years.

On the whole, we think the privet is *not* perfectly hardy at the north. And it should not be planted in such conspicuous places that when badly "cut up," it will be an eye-sore. For an undergrowth in a grove, it is very suitable, as it retains its leaves there nearly all Winter, and is seldom injured by frost. For screens in out-of-the-way places, to hide coarse fences, it does very well. For a very low hedge around a burial lot in a cemetery, it is very pretty: if kept quite low, it will seldom be winter killed.

It is a native of Europe, but has become domesticated in some parts of this country. In France and England, it is much used for hedges, and, like almost every fine plant in England, it has received poetic honors:—

"The Privet, too,
Whose white flowers rival the first drifts of snow
On Grampian's piny hills."

Shelter for a Fruit Garden.

A subscriber (J. P. of Oswego,) wishes to plant a fruit-garden, where it needs shelter on the north and west sides; and asks advice about the material for a hedge or screen, and the manner of planting it.

Reply:—If your garden were not to be so large as you propose, we should say, use buckthorn for the hedge, allowing it to grow eight or ten feet high. This plant can be had cheap, it grows in almost any soil and exposure, and is not subject to the attacks of the borer. But, as you wish "shelter for standard pears and peaches one hundred and thirty feet off," probably you had better try something else. If large specimens of the American Arbor Vitæ—say five or six feet high—can be had from the woods near you, we should say, make a trial of them. They will transplant easily, and when established, will grow a foot every year. They can be sheared and kept within as small space as any hedge. The roots will not extend a long distance, to rob fruit-trees of their needful food.

If the Arbor Vitæ can not be easily obtained, then try the Norway Spruce. This may be a little more expensive at the outset, but it will surely succeed and be every way satisfactory. Get plants about four feet high, set the stems at least six feet apart in the row, and they will soon spread laterally so as to fill up the spaces between, and they will rise high enough to break the winds from your most distant fruit-trees. All this, however, goes on the supposition that you first prepare a wide, deep and rich border for them to grow in. After they have become well rooted and in vigorous growth, they should be pruned a little in mid-summer. This tree is much used in Norway for hedges and screens, and when well managed, makes a lofty green wall, and a barrier stout enough to turn cattle. You could, undoubtedly, set fruit-trees within ten or twelve feet of this hedge, without material injury from its roots.

NEW UPRIGHT TOMATO.—The Gardener's Chronicle (Eng.) speaks of a new upright tomato, which requires no support. Its stem is two feet high, or more, and so remarkably strong and stiff, that they are strictly self-supporting—a highly commendable quality. It branches less than the common great red tomato, is less leafy, and does not want so much pinching. It does not bear so freely, as the common tomato,

but its fruit is larger, and more regularly formed. In earliness it is intermediate between the early red and the great red. It is called the *Tomato de Layr*. The seeds are offered by Messrs. Vilmorin, of Paris.

Blight on the Evergreens.

It is a fact, which can no longer be denied, that some of our finest conifers are becoming the prey of insects. The first appearance of this enemy, we believe, was among the Scotch larches, and is supposed by some to have been introduced from Scotland. In some cases, the insect is the red spider; in others it is a green worm about the size of a knitting needle; in others, it is a microscopic insect which seems to live on the bark and the leaves, causing the latter to roll up, and in many cases to drop off. In our own experience, thus far, the "green worm" is confined to the Norway Spruce. For two years past, fine terminal shoots on the trees would be seen, here and there, to droop, when on cutting them off, this worm would be found boring his way up and down the central portions of the shoot. The White pine, the Balsam fir, the Scotch larch, Norway Spruce, and Arbor Vitæ are the only trees we have known to be affected by any kind of insect.

As to remedies, who will provide any? If one had only a single tree, he might keep it clean by frequent doses of whale-oil soap and water, or by dusting it often with air slacked lime, or ashes. If the famous "Gishurst's Compound" were not so costly, it might be used: it would probably be efficacious.

But when one has large groves, or long nursery rows of evergreens, what can he do? We can only say, syringe, or dust with lime as many as possible, keep them well tilled at the root, hand pick, and—trust in Providence. Perhaps this blight is only a temporary visitation.

Large Fruit from Oregon.

Nelson C. Warner, returning from Oregon, exhibited at the office of the *American Agriculturist* some of the fruits of that land, which prove the truth of the large accounts given of fruit raising on the Pacific Coast. There were pears weighing two pounds each, and apples larger than some pumpkins. Several of the apples appeared to have grown out of their usual habit, by increase of size; as for instance, a Baldwin, measuring about twelve inches in circumference, had but a slight reddish marking, and was scarcely recognizable except by the shape and taste. There seemed not to have been color enough to spread over the enlarged skin! The specimens shown, were grown in Linn Co., Oregon, and Mr. W. stated that they were not considered uncommon in that region.

Fruit and Horticulture in the Mountains of California.

Mr. Geo. D. Dorrin, of Nevada Co., Cal., writes in a letter received Dec. 26: "Enclosed you will find a list of 104 subscribers for the 20th volume of the *American Agriculturist*, with Wells, Fargo & Co's. draft for \$104. By the next mail I shall probably forward an additional list. These are all new names, obtained at the instigation of my wife, though I have undertaken the work from a desire on my own part to have the *Agriculturist* circulated in the mountains of California, believing that the future of

this section of our State must depend more upon its Horticultural and Agricultural resources than upon its mines.

The mountains are filled with lovely spots which only need to be 'tickled with a hoe, to make them laugh a harvest.' The experience of the past few years has shown that the mountain-raised fruit, for quality, size, and flavor, exceeds that of the vallies; and I confidently look for the time when our more barren hill sides will be covered with flourishing orchards and teeming vineyards. I desire, too, to see the miners' cabins surrounded by gardens, and I have aimed to circulate the *Agriculturist* among that class of our population, that they may see that it is as easy to raise fruit bearing trees and flowering shrubs around their cabins, as 'Manzanita Bushes,' 'Tar Weed,' and 'Poison Oak.' Thus by drawing them away from the attractions of bar rooms and saloons, they will make better citizens, become more contented with life in California, and by building up homes here, conduce to the prosperity and permanency of our beautiful mountain villages."

[We shall be glad to labor in the promotion of so good a work.—Eds.]

Ornamental Vines.

Highly as we value trees and shrubs and flowering plants, we would by no means underrate the vines. They give an air of grace and finish to a garden, which can be obtained in no other way. Set them in the middle of a flower-plot, to be festooned about some tasteful piece of trellis-work; set them at the entrance of the garden, to clamber over a rustic arbor; set them at your door-step, to climb up the pillars of your piazza; or by your window, to trail over and around it, flinging their perfumes into the apartment; set them by the cabin to hide the rough logs;—in fine, set them anywhere, and they will conceal deformities, lighten the native charms of every spot, and more than recompense for the labor and cost of planting.

Who has not noticed how the plainest cottage takes on an aspect of refinement and grace, when its porch, and windows, and gables, are wreathed with flowering vines? The lordly mansion, otherwise too cold and stately, becomes cheerful and homelike by their presence. And then, how soon one can possess this luxury. For shade-trees to develop their mature beauty, you must wait many years; but for these, a Summer or two suffices.

There are so many desirable vines, it is hard to select from them. The *Trumpet Honeysuckles*, (*Lonicera Sempervirens*), red and yellow, every body knows that they are among the best of all vines.

The *Prairie Roses* deservedly rank high, because they grow so vigorously, making shoots twelve feet long in a season, when well established; and because the foliage is so fine, and the flowers so beautiful, and abundant. But they have one or two drawbacks. The slugs attack them annually, and must be killed as often, with whale-oil soap, or other like application; and, at the north, the tops are so liable to be winter-killed, they need to be laid on the ground and covered. Whoever will take the little trouble required to attend to these two points, will be paid for his or her pains.

The *Chinese Wistaria* (*Glycine Sinensis*), is another desirable vine. It was brought from China, and named by Nuttall, after Dr. Wistar, of Philadelphia, an enthusiastic devotee of horticulture. It needs a deep, rich soil at first planting; after

it gets a fair start, it will take care of itself and will grow almost out of sight in a single year. Its flowers are pea-shaped, purplish in color, and hang in long clusters, often a foot in length. It is a popular city vine, as it harbors no insects, and loves the warm embrace of high brick walls. In this City and further south, we have seen it covering the sides of buildings and twining about windows and tin-conductors fifty feet high.

The American Ivy, or Virginia Creeper, (*Ampelopsis quinquefolia*), is another excellent vine. Its flowers are not conspicuous, but its foliage is dark green, glossy, and unchangeable throughout the Summer, and then in Autumn it turns purple and crimson, producing those brilliant "effects" which painters love. It is particularly desirable for covering blank walls, for hiding any architectural defects, and for producing dense shade. It is hardier than the *Prairie Roses* or the *Wistaria*.

After the above, we may mention the *Dutchman's Pipe*, (*Aristolochia Siphon*), the *Trumpet Creeper*, (*Tecoma radicans*), several of the *Clematis* family, the *Bitter-Sweet* (*Celastrus scandens*), and the *Grape Vine*.

These are perennial plants; and to them might be added several biennials and annuals, such as the *Fumitory* (*Corydalis*), *Cypress Vine*, *Morning glory*, *Scarlet Bean*, etc. Out of all these, it will be easy for every one to find something to answer his purpose, and something that can be easily obtained.

Expected Horticultural Novelties from Japan.

A recent number of the *London Gardeners' Chronicle*, contains interesting letters from Mr. J. G. Veitch, a son of the great London nurseryman, who is now in Japan, collecting new trees and plants for transportation to Europe. Although his explorations are somewhat limited by the jealous strictness of the government, he reports having already obtained several new specimens of much promise. Mention is made of the surprising skill shown by the Japanese, in the manufacture of various articles from paper, among which he names first-rate waterproof overcoats, hats, umbrellas, and cases of all kinds. The paper is said by the natives, to be made from a certain tree; but they are not disposed to impart the process of manufacture.

The inhabitants show every kindness to Mr. V. and render him great assistance in making his collection of plants. They were quite incredulous as to his plan of transporting specimens to England in glass cases, having never seen any thing of the sort. The carpenter employed to construct them, was with difficulty induced to believe Mr. V. in earnest, when the work was proposed.

The success of Mr. V. thus far, demonstrates the superiority of private enterprise over governmental plans for such undertakings; although in this respect, the British nation have been much more fortunate than the United States. Further reports of the success of this enterprise will be looked for with interest, and communicated as soon as reliable information can be had.

One thousand barrels of Cranberries, it is stated, were sent to market last Fall, from a single town in Massachusetts. They brought \$8.50 per barrel. We trust that before many years hundreds of acres of now almost worthless swamp lands will be bearing generous crops to increase the supply. Now is the time to look out for a supply of roots for next Spring's use.



Fig. 1.—COFFEE TREE IN BEARING.

Notes on Coffee, and its Culture.

BY A. O. MOORE.

The two domestic beverages most extensively used throughout the civilized world, are Coffee and Tea. The French and Germans have their *Wine*; the Englishman his *Beer*; the Irish and Americans their *Whisky*, in which they drink each other's health!!!—but these are the accompaniments of the public house, the social gathering, or worse places. The only drinks worthy of being brought into the *family circle* as beverages, are the first named two, and one other more recently installed, called Chocolate.

Many well-meaning persons have classed Tea and Coffee among the injurious articles of diet, "slow poisons," "breeders of headaches," etc. Never having formed the habit of drinking either, nor any artificial beverage, I may be allowed to say, that the extremes of all arguments are apt to reach into error. The appetite, that natural guardian of the stomach, and when un-abused and healthy, a reliable one, has prompted man to the use of these drinks, until they are to be found on almost every civilized table. And it is a curious fact that chemists have subsequently brought their science to bear on the subject, and find that there is a substance peculiar to Coffee, which they name *Cafein*; also in Tea a peculiar property they name *Thein*. These two substances are so nearly identical that chemical skill can discover in them no difference. Is it a mere chance that the palate has thus, in advance of science, in such different products, from different quarters of the globe, instinctively in all nations, pointed out the self-same substance, and claimed it for the human system? Yet as our reason is higher than the appetite, every wise man will avoid excesses, will watch the effect of each article of food on his own system, and regard with a jealous eye every habit, lest habit swerve his judgment.

fourths of a pound to the tree, and yet pay expenses. A yield of three or four pounds per tree is generally considered a large average.

The accompanying engraving, (Fig. 1,) represents a young thrifty Coffee tree about ten feet high. The plant sometimes attains a height of twenty feet; but in cultivation it is desirable to keep the plant so low that all the branches may be easily reached; for one of the great injuries it sustains in careless hands, is the breaking of limbs and foliage in picking the crop. Fig. 2 shows a part of a branch, reduced in size, having three clusters of the fruit. On many branches there grow fifteen or twenty such clusters, so that if every tree were filled to its utmost capacity, a very large yield would be the result. In Costa Rica, one of the States of Central America, (where I investigated the subject, recently, and made the accompanying sketches from living specimens,) the largest amount I heard of as the product of one tree, was twenty two pounds, but there are many plantations which do not average more than half or three

of pulpy matter, and several membranous coatings. *b*, Fig. 2, shows the berry divided so that each segment contains a grain. *c*, Fig. 2, gives the two grains as they lie in the berry, but with all the enveloping substance rubbed off. Each of these is a distinct seed or grain, as may be seen at *d*, Fig. 2, representing the planted berry dug up from the ground after it had sprouted, and the two roots had developed.

The Coffee tree originated in Arabia, and it is said, that from a plant brought as a curiosity to the Royal Gardens of Paris a century and a half ago, a few offshoots were sent to the West Indies. Now these islands produce the greater part of the world's supply. About fifty years ago, a "Padre," or priest, obtained and planted a few coffee seeds in his garden in Costa Rica, and for twenty years it was only considered as a curiosity, but now it is so extensively cultivated there that it is the chief article of export, and constitutes the main source of individual and national wealth. It is being rapidly introduced into the other Central American States; indeed, in San Salvador I saw the finest plantations, though everywhere its cultivation was of a negligent kind. From this charge, however, I must except the American Consul, Dr. Hine, whose plantation of 200 acres near San José de Costa Rica was well kept, and, though young, was a charming sight.

Its cultivation is a beautiful and pleasant employment. It succeeds best among the fine airy highlands, where the climate is temperate and healthy throughout the year. In itself, it is remarkably beautiful, having a luxuriance of dark, glossy, evergreen foliage. When the blossoms, in their season, white as the new fallen snow, cover the whole tree, and when the ripened crop loads the branches with dark red clusters,



Fig. 2.—COFFEE BERRY AND MANNER OF GROWTH.

a, Fig. 2, is the coffee berry of natural size. In color, shape, and size, it is very like a black-heart cherry. This bears no resemblance to what we know as Coffee, but each such berry contains two of the grains, enveloped in a mass

there is a richness and brilliancy unparalleled by any cultivated plant. It is a profitable employment too. Even as it is conducted by the Costa Ricans, the returns from four crops usually repay the whole investment with interest.

Almost universally it is raised from seed, very much as a nurseryman does his apple trees. When the plants are six inches high, they are removed from the seed bed, and set out nine inches apart, and kept clear of weeds for a year. Then they are taken up and planted in their permanent positions, varying from four to nine feet apart. When two years old, if very vigorous, they begin to bear; but a full crop is obtained the fourth year. A plantation should, if properly pruned and cultivated, continue in good bearing for 25 or 30 years, but in the majority of cases which I saw, the trees were ready for the wood-pile when ten years old.

In December and January, the crop is gathered. The wet season is then passed, and a uniform dry season may be depended on. Women and children are mostly employed in the picking, and a busy time it is. The berries are thrown into large vats of water, and well stirred with paddles, moved either by hand or machinery, until the grains are in part separated from their external coatings. The mass is then allowed to stand in the water for a day or two, until an incipient fermentation takes place, which decomposes the gluten, etc., and, it is claimed, improves the flavor of the Coffee. It is then taken from the vats and spread upon cement floors, which are a permanent and important part of the arrangements of a Coffee estate, sometimes covering an acre or more of ground. Here the Coffee is frequently stirred, and in the course of fifteen or twenty days, is sufficiently dry to be housed. In some cases, especially among foreign cultivators, I found kilns in use to facilitate the drying. The next process is to remove and separate the particles of hull, etc., which still adhere to the grain. This is accomplished by a rubbing process. Various machines are in use for this purpose, more or less efficient according to the means or intelligence of the operators; but Yankee inventions have already been introduced, which reduce the cost of cleaning from $1\frac{1}{2}$ cents to $\frac{1}{2}$ of a cent per pound. After this, the refuse and dust are removed by winnowing, and it is ready for sale. When, however, it reaches the warehouse of the merchant, it is picked over, grain by grain, and all the imperfect ones are sorted out.

THE HOUSEHOLD.

Charcoal in Starch—Chemistry.

It may interest the unscientific reader to be informed that the pure white starch she uses contains a large amount of charcoal. We had occasion to analyze it, a few years since, that is, to separate its atoms; and what, think you, we found in 9 ounces of pure dry, white starch? Why, just 4 ounces of pure black charcoal, and 5 ounces of pure water, and nothing else! This seems wonderful, but it has been proved a hundred times. Place a little Starch in a clean iron spoon, and heat it over burning coals, as hot as you can without having it take fire. You will see it gradually change to black charcoal, and if you could catch the invisible vapor that rises, in a bottle or bell glass, you would find that only water or steam had escaped. In its ordinary state, the charcoal (or carbon) exists in such a combination with the elements of water (oxygen and hydrogen), that the compound reflects white light to the eye; but when you expel the elements of water, the charcoal reflects no light, or but little, and it then appears in its black form. This is only one of the thou-

sand curious things that chemistry reveals, and perhaps this illustration may lead some to study this wonderful as well as useful science; for there is no science so really useful to all classes, no matter what their calling or station in life.

[In a former number we recommended our readers to procure and study "Youman's Household Science" which treats largely of the chemistry of household matters, and many have sent to us to procure the book for them. We shall gladly send it to all those who desire it. The cost is but \$1.25 sent post paid. We have no interest in the copyright, and only recommend the book because we think it will do much to promote health and comfort. This is confined mainly to Household science. There are other good elementary books on chemistry—a science which we believe should be one of the first studied by every child in school, and also by every adult not yet acquainted with it.]

About the Sleep of Children.

One of the first rhyming couplets learned by most of us, was: "Early to bed, and early to rise, Makes a man healthy, wealthy and wise." This sounds plausible, and if the whole couplet were followed, it would be all well enough; but the practice is: go to bed late and get up early. An abundance of sound sleep is very important to the physical and mental health of children. While under the age of six years, 11 hours of sound sleep should be taken by them every night; from six to twelve years of age, 10 hours are needed; and from twelve to the full growth of the body, not less than 9 hours of sleep are absolutely necessary. After that period, 8 hours may answer, though 9 are better.

A sure recipe for securing restless sleep and the "kicking off" of the bed covers, is to allow children, or grown up people even, to eat hearty suppers. A light diet of bread and milk, say a cup full—not a great bowl full—is all that a child needs, and all it should have after dinner. Give them this at 5 o'clock P. M., and accustom them to go to bed invariably at 6 to 6 $\frac{1}{2}$ o'clock, Summer and Winter, and they will sleep soundly during all the evening and through the night. After the age of three, it is better not to accustom children to sleep during the day. Then, by making it an invariable rule for them to go to bed at 6 or 6 $\frac{1}{2}$ P. M., they will quickly drop to sleep. Were there no considerations of health, the convenience of having children "out of the way" during the evening, would be a sufficient inducement to this plan. We repeat that it is perfectly easy to accustom children to this,—if the rule be adhered to. We speak from successful experience, as well as from observation.

Rocking, or carrying, or singing even an infant child to sleep, induces one of the worst habits you can teach it. Put an infant in a bed or a crib, and let it lie there until it cries itself to sleep, even if it does sob for an hour or two, and in a very few days it will go into a quiet slumber quite as quickly as if shaken in the arms, or in a cradle. The truth is, few mothers or nurses have the courage or patience to endure the crying for the first few trials required, and so they go on, slaves for years. If a child awakens, do not take it up or make the slightest effort to soothe it, or you will soon inculcate a bad and needless habit. Let it lie—if it cries, no matter how hard—nerve yourself against any interference, and it will soon cease to expect aid or caresses. If a bad habit has already been formed, it will require longer and more persevering efforts to break it up, but it can always be done.

Try our recommendations, mothers, and you will find them valuable, and will save yourselves a world of care, and lengthen your days and promote the health of your little ones.

How to Keep the Children Healthy.

The mortality among children in our cities, as well as in the country, is sad to contemplate. Is there any necessity for this? Are all these children sent into the world to be thus early cut down? Are not nine out of ten of these early deaths the result of ignorance? What parents ever lost a child, except by accident, without thinking: "If I had treated it differently, it would not have died"? The loss of our own three first born has led us to think much upon this topic, and three almost always healthy living ones are evidences that our studies on the subject have not been in vain. A few hints on the topic, from time to time, may not be without use to those parents who read the *Agriculturist*.

Elsewhere, we have given some hints on the sleep of children. Next to securing plenty of sound sleep, or rather before it, we place the proper preparation of food. The kind of food they eat is not of half so much consequence, as the manner of its preparation. Give a child a hard apple and let him swallow it in pieces from the size of a large pea upward. The result will be, that the lump will be partly worn off by the coats of the stomach, and partly dissolved by the gastric juice; but after a time, the remaining portion of the lumps will be forced down into the intestines and go through the whole length of 15 to 20 feet, producing at least griping and irritation all the way, if not diarrhea or dysentery. But first scrape or mash the apple to a fine pulp, and it may then be eaten with impunity, and with benefit, if ripe or nearly so.

Feed a child on boiled potatoes cut up, or on potatoes coarsely mashed and fried in fat, and you will be pretty sure to find more or less of lumps of potatoes remaining undigested. How can it be otherwise than that these lumps must have produced irritation in the intestines? But mash these same potatoes finely before feeding them, and then the fine material will be digested and afford nutriment instead of giving uneasiness and pain "under the apron."

The same holds true of most meats. Cut up fine—as fine as shot almost—they will be digested, and produce nourishment; while if fed in coarse pieces, they will lie in the stomach, like a meat poultice on the outside, the cause of uneasiness if not of partial inflammation. Feed raisins and nuts to children, and unless very strong and vigorous, the chances are that they will induce immediate sickness or a weakened system, liable to be affected by the first change of heat and cold. Chop these same raisins or nuts finely, reducing them almost to powder, and they may be eaten in moderate quantity with impunity. These remarks apply to all kinds of food, and, in a measure, to grown people as well as to children.

Many persons are over nice or anxious as to what their children eat, and often reduce them to skeletons, or unfit them for a vigorous resistance of colds and malaria diseases, by feeding them on toast, or rice, weak gruel, etc. Give them rather a fair supply of hearty food so finely reduced that it will be quickly digested in the stomach, and they will grow vigorous and be able to withstand the changes of climate, and the exposures to which they are ever liable. Mothers, consider these things, and see if they are not true and in accordance with reason.

Boiling—Broiling—Roasting—Frying.

When meats are *boiled* in water, a considerable portion of the nutriment is dissolved out, and owing to the fact that water can not be heated above 212° except under pressure, it is often difficult to heat the meat enough by boiling to disorganize its fibers and make it tender. If it be necessary to soak out salt, put meats to be boiled into cold water, and let them be gradually heated. But when it is desired to retain the juices, the water should be made boiling hot before the meat is put in, so as to close the pores, or coagulate the albumen upon the surface, at once. To obtain the *best broth*, let the meat be put into cold or lukewarm water, and be kept for a long time below the boiling point. A better plan still, is to cut the meat very fine, put it into a bottle, cork it tight, and then place the bottle in a kettle of water, and boil it thus for a considerable time.

When meats are *broiled* on a gridiron over hot coals, the sudden high heat applied sears the outside, which shuts in the juices, and the rapid application of heat soon cooks the meat through, if in moderately thin pieces. It is then tender, juicy, and palatable. Those who never *broil* their fresh meat, or fish, or poultry, do not know the excellences of a properly cooked dish of animal food. Of all methods of cooking fresh meats, whether fish, flesh, or fowl, broiling is the best—provided always that the cook is active and intelligent enough to handle the gridiron and meat dexterously, so as not to make charcoal of an atom, and yet quickly cook every part of the meat sufficiently to suit the taste of the consumer.

Roasting meat, in an oven, is next to broiling, and generally preferable in the hands of a careless, or slow, or inexperienced cook. But a piece of meat to be roasted well, should be put into an oven already hot, so as to sear the surface in order to retain the juices. The heat should afterwards be kept as high as possible without actual charring or burning the meat. The higher the heat, and the more rapid the cooking, the tenderer will be the meat. A long slow roasting, is next door to "tanning."

Frying in a pan or spider is the worst mode of cooking meats, except for tasteless fish, or meats which are so much like chips as to require soaking in fat to render them at all palatable. Swine-eating Gentiles do well to fry their pork, to "try out" a considerable proportion of the lard—though we have never been able to appreciate the good taste or digestibility of the fat soaked "scraps" left after frying a piece of pork in the usual process.

Cooking Potatoes.

Baking is by far the best method of cooking potatoes. Some think they dry out so much, that boiling is more economical. This is a mistake. At least four ounces out of every five of the weight of potatoes are simply water, and there is no loss of nutriment in drying out these four ounces of water. On the contrary, the dry, mealy portion left after baking, is more congenial to the stomach and more easily digested than when the moisture is kept in by boiling.

Frying potatoes in lard is the worst of all methods. Unless masticated very thoroughly before swallowing—a thing few persons do, no matter how good their teeth—it is next to impossible for the gastric juice in the stomach to attack and dissolve a lump of potato coated with

fried lard, or other grease. If any one doubts this, let him eat three baked potatoes one morning; and the next morning eat the same amount of potatoes fried. In the latter case an uneasy dull feeling for two or three hours after eating, will afford abundant evidence as to which is the better mode.

If potatoes are cooked by boiling, they should always be *thoroughly mashed* before eating. If not done in the kettle, let it be done upon the plate. When mashed in the kettle, it is not economical, or best, to mix in a large quantity of butter. The use of butter, spices, etc., is to stimulate the glands of the mouth and cause them to throw out abundant saliva to moisten the food and better prepare it for the gastric juice of the stomach. This saliva is what really gives food its "good taste," and that food is most relished which "makes the mouth water" most freely. Butter, salt, or other condiments upon the *outside* of food, come most readily in contact with the glands of the mouth, and a little butter will taste better on the outside of a mouthful of food, than double the quantity mixed intimately through it. Half a pound of butter mixed into a loaf of bread will not taste as well as two ounces spread upon the slices. This rule holds good in many preparations of food. We suspect that "one cup of butter" only, in a cake, and a quarter of a cup spread on the outside in eating, will taste better than "two cups" put into the mixing pan. We are quite aware that the ladies will tell us that they need the butter *in* the cake to make it "short"—but our rule holds good in a degree, nevertheless. We like good butter on the outside of food where we can see and taste it. If the butter is poor, put it on the inside and bake out its bad taste so far as can be done.—But we have wandered from cooking potatoes, and must say more about boiling them "mealy" at another time. The above hints are small things to write about, some will say, but it is the little things that have most to do with good cooking. The larger matters every body will, of course, look after.

"Buckwheats."

Flap-Jacks, or "slap-jacks," as they are familiarly called in New-England, are in the ascendant at this season, and they are worthy of the prominent place they occupy on the winter table. If rightly made, they afford a large amount of good eating without overloading the stomach with too much solid material. Why they should be wholly discarded through the Summer season, we never could see, unless it be to save fuel—and yet it takes less fire to cook a supply of buckwheat cakes for a summer breakfast, than is required for boiling a kettle of potatoes.

The opinion formerly prevailed that buckwheat flour produced eruptions of the skin. We suspect the trouble resulted more from indigestion, arising from overloading the stomach with an immense quantity of cakes steeped in gravy and poor molasses. However that may have been, since the modern process of hulling buckwheat before grinding, has come into general use, we hear less of the complaints of the unhealthfulness of buckwheat cakes. It may be stated here also, that probably half of the material sold as buckwheat is really wheat flour. The comparative scarcity and high price of buckwheat has made it profitable to adulterate it largely with the cheaper brands of wheat flour. "Middlings" are much used for the same purpose, as most people mistake the dark color given by these, for that of buckwheat itself.

But we started to give a scientific hint to the cook. A really good light flap-jack is comparatively a rare article. After raising with yeast, the batter usually contains considerable acid, and it is customary to correct this acidity by the addition of an alkali—saleratus or soda. (Soda is better than saleratus for all kinds of cooking purposes, as less of it is required to produce the same results.) The alkali of the soda neutralizes the acid in the batter, and the carbonic acid gas set at liberty from the soda, assists in giving lightness to the cakes. But Bridget fails in nine times out of ten to add just soda enough; the cakes are either left a little sour, or they are overdosed, and taste of the alkali. The soda is also added in lumps, and seldom gets thoroughly diffused. It should be dissolved in a trifle of water, before putting it into the batter, and then be stirred in briskly and thoroughly.

If too little be added, the cakes are still sour, and of course the only remedy is to add more. But what if too much be added? We judge from observation, that few persons know that the over-dose of soda can be admirably corrected by stirring in a little cream of tartar. This will not only neutralize the excess of alkali, but will also yield carbonic acid gas to lighten the cakes.

The theorist will here condemn us for recommending these "drugs" for human food. Well, if you can make fresh batter from new yeast, every morning, and have the batter just right without any addition, by all means leave out the soda, and its corrective, cream of tartar. But whenever the cakes come to the table a little, or a good deal sour, we shall call out to Bridget to put in some soda, and if she get in too much, we shall call for the cream of tartar. And still further, if by any reason the batter has not risen enough to give us light cakes, we shall order in a little of both soda and cream of tartar, which will make up for the lack of fermentation. And yet again; if Bridget "forgot to set the batter last night," and we want "buckwheats" for breakfast, we shall tell her to mix up some buckwheat and put in "one teaspoonful of soda and two of cream of tartar" and thus give us some light unfermented cakes, which this process will produce. All this notwithstanding the theories of those who are down on saleratus and cream of tartar. We are but little more afraid of a slight admixture of Rochelle salt (which is produced by the union of soda and cream of tartar) than we are of an excess of common salt. This "noxious drug" does not go half so much against our stomach, as sour, or heavy, or soda browned cakes.

One hint more now. We sat at a breakfast table recently where buckwheat cakes were the only resort from poor bread and butter, sausages, and fat fried potatoes; but the cakes too were cooked swimming in grease, and of course were unfit for eating, except in small quantity. When we chance to take breakfast with you, good friend, please have the flap-jacks cooked on a griddle greased barely enough to prevent sticking. If the hints above given are followed, including this last one, and we have just a little good butter for the outside (see hints on cooking potatoes) we will only ask one favor more, and that is, that no count be kept of the number of times our plate is passed up for "one cake more."

P. S.—A friend at our elbow hints that a soapstone griddle is the best thing to cook flap-jacks on, especially for dyspeptics, as they will not stick to this if no grease be used. Also that a piece of raw salt pork is the best "greaser" as it leaves just fat enough on an iron griddle

BOYS & GIRLS' COLUMNS.

Uncle John's Study.....III.

BY RALEIGH TRUMAN.

Description of a new and interesting Instrument for Grown-up, as well as for little People.

[Our young friends will remember that last month there was not room in the paper for the whole of Raleigh's report. It is continued from the point where the children asked Uncle John to show them the inside of the magic box.—ED.]

Uncle John handed the box to me, saying with his peculiar smile: "Handle it carefully Raleigh, and be sure to break no wheels." I promised compliance, and received the box. Here is a picture of

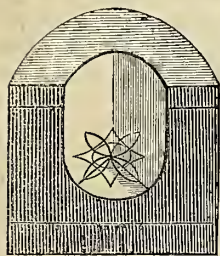


Fig. 1.

it. None of us could discover any wheels; no apparatus appeared in sight but two highly polished silver plates, set upright with their edges meeting in a corner or angle. The box served only to hold the plates in place.

"Is that all?" exclaimed Freddy, apparently disappointed; for he had expected to see some complicated machinery, like the inside of a watch, or a music box. "Anybody could make that."

"Why did you not make it then?" asked Uncle John quietly. But Freddy made no reply. "You see" continued Uncle John, "that it is easy to imitate, but not so easy to start a new idea. But don't undervalue it because it is simple in construction; simplicity is a merit in any invention."

While this conversation was going on, Cousin Grace had left the room, and presently she returned with two pieces of looking-glass nearly square, which she had found in her play room.

"What are those for?" asked Susie. "I'm going to make a 'magic box' for myself," replied she.

"Let us now call it by the proper name," said Uncle John. "It was invented by a German, Mr. Debus, and from him was named the *Debuscope*." "Oh I know," said Fred. "I had part of that word in my Greek lesson yesterday. *Scope* comes from *skopeo*, which means *I see*, so I suppose *Debuscope* signifies: *Mr. Debus' way of seeing*."

We were all too busy watching Grace, to pay much attention to Fred's talk. She first set the pieces of glass upon their edges, and placed two ends together, like a wedge. Then she took a small thin slip of wood which she split from an old paint-box cover, and set that on edge between the front ends of the glass. After this she wound a piece of small twine tightly around the glass and wood, and tied it. This held the three pieces in their places. This picture, Fig. 2, shows pretty nearly how it looked when she had finished it. The star-shaped figure within, represents one of the designs made by placing it over some rough pencil marks on paper.

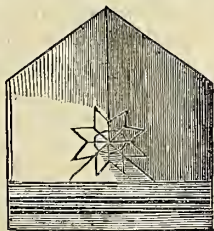


Fig. 2.

"Now for an experiment with the *Grace-scope*," cried Fred. Grace laid a five cent piece on the table, placed the apparatus over it, and we all looked in eagerly. But there appeared only six pieces, instead of eight, as had been the case when Uncle John's *Debuscope* was used. "You don't give us good measure Grace," said Fred. Grace was much perplexed, and asked Uncle John the reason of the partial failure. "The pieces of glass are opened too wide," said he. "They should be set together so as to form just half a square corner, or what is called an angle of 45 degrees. Let me assist you." He then took a square piece of paper and drew a line from one corner to the other—after unwinding the string from the glass, he placed one

piece upright, with its lower edge exactly even with the penciled mark, and the edge of the other piece even with the edge of the paper; the upright edges of the two pieces met and formed a corner at the corner of the paper. When they were fastened in this position with the wood and string, we tried it again, and found it worked almost as well as Uncle John's. There appeared to be open spaces or cracks between the figures which it made when placed over an object, that were not seen under his instrument. This Uncle John explained, by saying that the thickness of the glass was shown in the reflections by which the figures were made; while with the silver plates, the bright or reflecting surface was on the outside, and no thickness was shown. Except this, looking-glass answers every purpose, and as my *Agriculturist* cousins can all procure bits of looking-glass, I think they can each make one which will afford them much amusement. If they desire a better one, they can buy a couple of daguerreotype plates from some artist, and put them together; the only care needed is to place them at the proper angle, which is easily done in the way shown us by Uncle John.

The Editor with his Young Readers.

SMART BOYS.

A bright looking chap came into our office a day or two since, with a basket of articles for sale. As soon as he entered, he commenced naming over his stock: "Want any pins, needles, thread, buttons, matches," etc., in such a rattling way, that every body stopped work to look at him. Few auctioneers could have done better. We took a fancy to him at once, and stepping from behind the desk, inquired, "Would you like to get a place to work?" "Yes, sir," he replied. "When can we see you again?" we asked. "Oh," said he, as grave as a judge, "step around to my office, corner of Brickbat and Stone streets at any time;" and turning away, he left the room. Of course, there is no such corner, and he was playing off a joke—a saucy one, but so cleverly or pertly uttered as to provoke a hearty laugh.

If that boy were properly trained, he would make an enterprising and successful man. As it is, his smartness makes him pert and impudent, and if no kind influences reform him, he will, quite likely, become noted for evil. He will be one of the foremost in all he undertakes. The incident led us to write a word to the smart boys who read the *Agriculturist*. We know there are many, by the pleasant letters they send. Boys, *pull hard at the traces, but not at the bit*. Make your work fly, but don't be headstrong nor saucy. Bridle your tongue, and let father and mother hold the reins—they will guide you safely, for they have been over the road and know its turns best. Hear what the Wise Man says, "Put away from thee a froward mouth, and perverse lips put far from thee."

A great friend of the children, Mrs. Gildersleeve, Buffalo, Erie Co., N. Y., contributes the following beautiful and touching incident to the Boys and Girls' Department of the *American Agriculturist*.

"BITE BIGGER, BILLY."

Walking down the street, we saw two very ragged boys with bare toes, red and shining, and tattered clothes upon which the soil of long wear lay thick and dingy. They were "few and far between"—only jacket and trowsers—and these solitary garments were very unneighborly, and objected to a union, however strongly the autumn wind hinted at the comfort of such an arrangement. One of the boys was perfectly jubilant over a half withered bunch of flowers some person had cast away. "I say Billy, war'nt somebody real good to drop these ere posies jest wete I could find 'em, and they're so pooty and nice? Look sharp Billy, and may be you'll find something bimeby—Oh jolly! Billy if here ain't most half a peach, and 'tain't much dirty neither. Cause you hain't got no peach, you may bite first. *Bite bigger*, Billy, may be we'll find another 'fore long."

That boy was not cold, nor poor, and never

will be; his heart will keep him warm, and if men and women forsake him, the very angels will feed him, and fold their wings about him. "Bite bigger, Billy, may be we'll find another 'fore long."—What a hopeful little soul! If he finds his unselfishness illy repaid, he will not turn misanthrope, for God made him to be a *man*, one to bear his own burdens uncomplainingly, and help his fellows besides. Want can not crush such a spirit, nor filth stain it, for within him, and about him the spirit of the Christ-child dwelleth always.

NEW PROBLEMS.

No. 3.—*Biblical Enigma*. Contributed to the *Agriculturist* by Mrs. C. C. Hemmenway, Queens Co., N. Y.

A A A A A H H H N N P P Z T E.

No name of nation nor of place,
I by these letters mean;
But if you do them rightly trace,
And put each letter in its place,
A word will then be seen.
To know what word these letters spell
Read your *Bible*, that will tell—
And when you search the Scriptures round,
It only once can there be found.

No. 4.—*Illustrated Rebus*.—The following is a capital rebus, worth studying out. When rightly read, it gives a well known adage.



ANSWERS TO PROBLEMS.

No. 1.—*Enigma* contributed by M. Deming. (See page 23.)—*Answer*—A splint broom.

No. 2.—*Illustrated Rebus*. (See page 23.)—*Answer*—Ewe and eye (we) double u eye shoe aha p in ewe y ear; or, *We wish you a happy New-Year*.

Correct answers received up to January 8th:

G. C. Cook, No. 31; E. Norton, 30; Sallie A. Crater, 31; Wm. F. Boyce, 30; Thos. V. Thornton, 30 (Thanks for the club); Adela M. Frindley, 31 (your *Enigma* is very ingenious, but rather too difficult for the *Agriculturist*); Robert M. Hasbrouck, jr., 30, 31; Saidee Allaire, 31; A. N. McRoff, 30; Allen A. Gould, 31; Eugene Quackenbush, 30, 31; Julia B. Bonniwell, 31; "Kosta," Iowa, 30, 31 (no name received); Frank Bonniwell, 30; W. A. Buckhout, 30; A. H. Breckenfield, 30; R. M. & L. M. Hosick, 31; F. A. Sanders, 30, 31; Otway B. McCluire, 31; R. S. Darlington, 31; Nelson H. Moore, 31 (Rebus pretty good); Mrs. A. E. Howard, 30; George W. Howard, 31; Mrs. Avery, 31; Oliver C. Prickett, 30; Henri W. Young, 31; John E. Harditz, 31; Ebenezer R. Gray, (10 years) 31; Fuller P. Dalrymple, 30, 31; Hetty K., 31; H. D. Musser, 30, 31; Charles B. Markwick, 30; Sarah E. Middlemiss, 30, 31; J. Clayton Murray, 31; Eva E. Gibbs, 31; Frank Fancher, 31; Edmund H. Ambler, 30; Joseph Deny, 30; Josiah Allen, 31; Mrs. A. T. Allen, 30; Wm. H. Thornton, 30; Edward J. Russel, 31; Leonard W. Ross, 31; Joseph R. Overman, 31; John Tampsett, 31; George W. Morse, 31 (your little practical joke was duly appreciated. Money and box both safe); E. J. Burbridge, 31; Chas. Frey, 31; E. H. Smith, 31; Martha J. Taft, 31; L. B. Schuyler, 31; Edwin D. Ullman, 31; J. Erskine Mills, 31; Mary Grant Lathrop, 31; Isaac E. Wilson, 30; Emory Mills, 30, 30; Joseph Clayton, 31; Allen Barnett, 31; John R. Cook, 31; Maria K. Carr, 31; Wm. Halbach, 30; Hattie Smith, 31; Isaac S. Miller, 30; Annette B. Shutts, 31; Theodore Schenk, 30; Cornelia C. Cunningham, 2; Melville Hendricks, 2; Wm. Thos. Sprigg, 31; Hamlin Rockwell, 1 (We like to receive original puzzles); W. P. Ewing, 31; Samuel Phillips, 31; Annie M. Brown, 1.

OUR NEW PET.

The boys and girls who read the *Agriculturist* last year will remember the description of our pet frog, given in the April number. He is still alive, and enjoying himself as well as ever; at any rate he makes no complaint, but sits contentedly upon his rock, and appears to be meditating upon the busy scenes around him. We have now another creature, whose appearance might frighten many of you, but he will be quite an entertaining companion, we think, after a little longer acquaintance. It is a large owl, of the long-eared species, measuring about fifteen inches high. His wings, when spread, extend about three feet. He was caught at Catskill, in this State, a few weeks since, and is not yet sufficiently at home to be very communicative. He has the immense eyes for which such birds are noted, and he keeps them wide open to all that is going on in the office. When a stranger approaches his cage, he gives a hiss of defiance, bristles up with his feathers, and looks quite formidable. He will, however, allow those who feed him, to smooth his head, which he seems to enjoy. One night he escaped from his cage and had a fine time flying around the office, which is a very large room. Presently he spied some stuffed specimens of birds, and attacked them with claws and bill, making the feathers fly merrily. Upon taking him again, he showed fight, and gave our foreman a severe scratch with his sharp claws, which are very strong. He feeds on mice, when he can catch them, taking one at a mouthful with perfect ease. He relishes raw meat of any kind, and will take down half a pound at a meal with great relish. We tried him with a very large live rat the other day. He made short work of it. With one claw he grasped the rat, held him firmly, and soon dispatched him with his strong bill; but left him after he was dead. We shall study his habits, and communicate any thing more that may prove interesting.

The above was written for the January *Agriculturist*, but not published then for want of room. Our poor pet has, since died. He was becoming quite tame, but the warm air of the office did not agree with him, and one morning he was found on the bottom of his cage, taking his last sleep; so we are disappointed in becoming better acquainted with his habits. You will, however, find a very interesting article about an owl of nearly the same description, on page 44 of this number, which shows how good a friend he is to man.

HOW TOM WAS CAUGHT.

One of our young friends, Charles L. Siewers, sends the following anecdote of a Maryland lady and her negro servant. The lady was unable to account for the great consumption of butter in the family, and one day she followed a new purchase to the kitchen, in time to see the cook's friend, Tom, deposit one of the rolls in his hat, and put it on his head. Without seeming to notice it, she sent the cook, who was browning coffee over the fire, on an errand, and desired Tom to take her place. Not suspecting her object, he readily complied. Presently, as he stirred, a violent perspiration broke out on him. "Stir away, Tom," said the lady, "or the coffee will burn!" "Oh, missus," groaned Tom, "I'se so hot, I sweat so!" "Well, you do sweat, that's a fact, but stir away!" The perspiration now became too strong for Tom's control, and poured over his face and eyes in streams. Catching

a smile on the lady's face, he dropped the spoon, exclaiming, "Oh missus, I neber do so agin," and made a dash for the door. Tom was fully cured.



JOHN BRUNT AND HIS FRIEND "SHARPY"

John Brunt was an orphan boy, who lived with a farmer and worked for his board and clothes. He had no relatives living that he knew. His father and mother had died of ship fever in the City of New-York, a few weeks after coming to this country from Holland. At that time John was but five years old. When his parents died, they were at a public house, where they had stopped for a few days only, expecting to go to Iowa and buy a farm; but death overtook them, and John was left alone among strangers. They were not his friends; for they took the trunks and money of his parents, and gave John to a man that came to the boarding house to sell vegetables. There was no one to interfere, and John was not old enough to understand anything about it. This man had no children, and took John home as company for his wife, who was quite lonely when her husband was absent at market, for they lived nearly half a mile from the nearest neighbor; and as he raised vegetables to sell in New-York, he was away from home very often. He also thought that as John grew older he would be able to help him with his work. He was a very selfish man, and his wife was much like him, and poor John found living there, very different from being with his own parents. They gave him the poorest food, clothed him in the coarsest garments, and kept him busy at whatever he was able to do. But having a good constitution, he grew rapidly even under such treatment, and before long, seemed as tough as an oak knot.

He was naturally of cheerful disposition, but like other boys he could not be happy without compan-

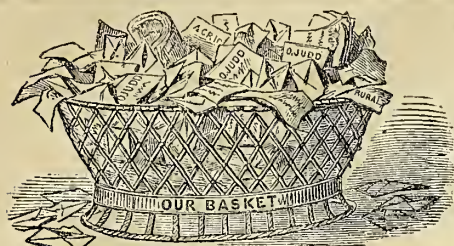
ions. Sometimes he was sent upon errands to the neighbors, and occasionally he met lads of his own age; but he was allowed little time to play with

them. As he grew older, he made companions of the animals around him. The cows, the pigs, and the chickens all came readily at his call, and seemed to love him, for he always treated them kindly; he often talked to them, as though they could understand him, and thus he passed many pleasant hours; but still he longed for some more companionable playfellow. When he was about twelve years old, he went out late one evening to unload the barrels from the wagon which had returned from market. As he set one of them upon the ground, he heard a whining noise, and looking within, found a poor, rough, shaggy puppy, which some mischievous boy in the City had placed there, while the wagon was standing in the street. He took him out carefully, and as the little fellow crept close to him for protection, John felt almost as happy as though he had found a brother. He thought of the day when he himself was brought there in the same wagon, and with tears in his eyes he said "You shall have one friend, my little fellow, as long as John Brunt lives." He did not dare take him to the house, fearing the woman would order him to be killed, but carried him to the upper room of an out-building, made a bed for him of an old sheep-skin, and left him until after supper. He contrived to take part of his own allowance of bread and meat, to his new friend, before retiring, and then lay awake a long time contriving how he might keep him. The next morning he introduced the subject by saying how much trouble the hens made in the garden, and how nice it would be to have a dog trained to keep them away, and finally gained the consent of his mistress to keep one if he could obtain it. This was an easy matter, and very soon, under John's

management, Sharpy, for that was the name he gave the dog, became a very useful little fellow. He kept the pigs and chickens from mischief, drove the cows home, and scared away all the rats from the premises. But he was especially dear to John, who spent most of his leisure in playing with him and teaching him amusing tricks. The picture represents him as engaged in this. How intently the boy and dog watch each other, as if there were a perfect understanding between them.

John was more than repaid for his sympathy for the poor animal, in the pleasure he had with him. But he was the means of still greater good to his benefactor. One day, as John was amusing himself by the roadside with Sharpy, a well dressed man riding by, stopped to see the dog's tricks, and began talking with John. Being pleased with the boy's appearance he asked him several questions, and finally learned his history.

"You are the very boy I have wanted for months" said he, when John had finished. He was a lawyer, to whom John's friends in Holland had written inquiring after the fate of his parents, and requesting that if they were dead and the boy could be found, that he should be sent back to their care, for they were quite well off in the world. The rest of the story you can easily imagine. In a few weeks John was on his way to his friends in Europe where he arrived safely, accompanied by his beloved Sharpy, who was now more dear to him than ever. So you see, that even a poor friendless brute may accidentally prove an angel in disguise.



Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or interesting Extracts from their Letters, &c., &c.

Good Letters.—We desire to return many thanks to our readers, not only for their kind words of appreciation and encouragement, but also for the numerous facts, experiments, suggestions, questions, etc., that have been recently forwarded for our columns, and especially for the "Basket." This department is to receive increased attention; it will be seen that we have made a beginning in the present paper, though a large number of letters are necessarily laid over for want of time to attend to them during this busy month. Let us have abundant material. Every subscriber could contribute at least one item, and is requested to do so.

1860 and 1861 Mixed Up.—While printing the January number, we also printed an extra edition for January 1860, for bound volumes. The binders seemed to get befogged about the years, and stitched some of the inside sheets for one year with the outside sheets of the other. There were only a few of them, but any subscriber having one will please mail it to this office, with his Post Office Address, and receive a perfect copy.

Oh No!—The San Antonio Ledger, Texas, intending to do the *American Agriculturist* a good turn, after speaking of its character, etc., says: "It is unquestionably the most voluminous agricultural magazine published in this country for the money, viz., \$1 per annum. Proprietor, Orange Judd, New-York."... "Prof. Mapes, who has obtained much notoriety, nay, celebrity, as an agricultural chemist, is its conductor and principal contributor."—A grand mistake, friends McLeod & Dashiell, of the Ledger! Mr. Mapes, the self-styled "Professor," is not "conductor" or "contributor," nor in any manner connected with the *Agriculturist*. He has a journal of his own, wherein to puff his "nitrogenized" and other "super-phosphates," "progressed elements," and other articles of merchandise. The *Agriculturist*, on the contrary, is an independent journal, published for the people, and not to editorially advertise the wares, or chemical theories of any man, or of any establishment whatever.

The Lime Questions.—Several replies have come in since the printing of the one on page 40. Several of the most valuable will be published as we have room.

Fruit Stealers to be Felons.—The fruit growers of New-York will learn with pleasure that a bill is now pending in the Legislature, and has been favorably reported by the Committee to whom it was referred, which provides for the punishment of fruit stealers or trespassers, as *felons*. We have not yet seen a copy of the bill, but anything that will afford protection to those who are trying to raise choice fruit, will be hailed with pleasure. If the owner could be assured of being permitted to enjoy the fruit himself, there would be a large planting of trees the coming spring—especially of the choice kinds. Messrs. Legislators, please give us the law, the best you can make it, the present season, and farmers, gardeners, and horticulturists generally, will unite in a unanimous vote of thanks for this act, whatever else you may do or not do. We have opportunity to know the general feeling, and we are sure that there is a universal desire to have more stringent laws against those who would scorn to be called thieves, but who have no hesitancy in picking a lot of pears, apples, etc.—perhaps the first ever grown by some individual, of a choice variety.

N. Y. State Agricultural Society.—The annual meeting of this society will be held at the Agricultural Rooms, Albany, on Monday, February 13th.

The Grape Growers of Connecticut met recently at New Haven, and chose Daniel S. Dewey of Hartford, President, and Mason C. Weld Secretary. The convention voted its preference for the following grapes in the order named. 1st, Diana; 2nd, Delaware; 3d, Rebecca; 4th, Isabella; 5th, Hartford Prolific; 6th, Concord. They recommended the Diana for its great excellence and certainty of ripening in all fair exposures. By "resolution" the convention says: The Delaware promises well, but has not been so extensively fruited as to enable them from personal knowledge, to give positive assurance that it is worthy of the high character claimed for it by many. The Rebecca has been sufficiently tested

to show, that it is a fruit of great promise and excellence; hardy, and likely to ripen, at least in good exposure. We give this as a news item; the general opinion gives a higher indorsement of the Delaware; and is less favorable to the Rebecca, which is not so hardy or vigorous a grower, as could be desired for a fruit of so much excellence. The order of merit, we nearly agree with.

Yale Agricultural Lectures Postponed.—We are sorry to learn, by a letter from Prof. Porter, that it has been decided to postpone the proposed course of Public Agricultural Lectures in February. Several reasons have led to this course—one of the most prominent being, we suppose, that some of those most successful as practical breeders of Stock, as well as agriculturists and horticulturists, are also public men, and they are just now too much occupied in political matters to positively promise to be present to take part in the exercises. It is intended to resume the course next Winter. The usual lectures on agricultural chemistry at Yale College, will begin February 1st. These are, in themselves, worthy of a large patronage.

Onions lost in Storing.—W. J. Spence informs us that last summer he raised a splendid crop of white, or silver skin onions at Islip, L. I., amounting to 500 bushels. Anticipating good returns, as this kind usually sells high in Spring, he prepared a good dry room for them, and spread them on the floor 4 to 5 feet deep. Following the directions of an "old onion grower" in his employ, the tops were not removed, but the whole piled together after drying in the field. As the result, the entire mass heated, and 300 bushels are spoiled for market. He is boiling, and feeding them to hogs. He has just obtained our onion pamphlet, and thinks that if he had secured it sooner, he would have saved his onions.

A Stove in the Corn Crib, would often be useful to hasten the drying, and prevent molding. A simple provision of this kind, taking care to keep the heat so low as to only dry the air and promote its circulation, will frequently save the gathered crop, and the next one too, by saving the seed corn from losing its germinating power through dampness. We practiced this 20 years ago on the paternal farm.

Good for Rats and Mice.—A correspondent of the *American Agriculturist* advises to destroy these pests thus: Wet some pumpkin seeds, sprinkle on a little arsenic or strychnine. Cats or other quadrupeds will not eat them. The most sensible part of the advice is, to place the seeds at a distance from the house, with water near. The rats and mice will find them any where, or if necessary, they may be baited out by scattering a little grain along the route. They will eat the poison, drink the water, and die before they can get back to their hiding places in the house. But look out that the children do not eat the seeds. They may be put in holes, or elsewhere, so that neither poultry nor children can get access to them.

Wild Goose Wheat.—Wm. Longfellow, Washington Co. Me. We have received samples of this under the name of "mammoth rye," which it resembles more than wheat. Samples were sent us from Oregon with the same account you give, viz., that it was taken from the crop of a wild goose, in that state. This account of its origin is probably fanciful.

Destroying Grub Worms.—James S. Nicholson, Weakly Co., Tenn., writes in answer to the request in the "Basket" last month, for experience in destroying these vermin, that he accidentally proved the efficacy of the late plowing there recommended. A small strip of a field was plowed early in Autumn, to prepare it for corn the following year. The remainder was delayed until after several frosts had driven insects to their winter quarters. The next Spring, the corn on the early plowed strip was much injured by the cut worm and the "bnd worm," but the late plowed piece was entirely uninjured. He suggests that infested fields might be turned over during February, if the weather permit, and many insects would be killed by succeeding frosts.

Protecting Raspberries.—"Subscriber," Peterboro, C. W. The Brinkle's Orange raspberry, being hardier than the Antwerp, went through the Winter better than the latter. The Antwerp might blossom, and still not have sufficient vigor to ripen the fruit. Try again, covering with *earth* instead of evergreen brush.

Hardy Climbing Roses.—W. W. Caldwell, Orange Co., N. Y. A good assortment of these, of the colors you desire are: *Prairie Queen*, bright rose, very double; *Baltimore Belle*, white, clusters. A good, hardy yellow can only be had among the briar sorts, of which the *Harrisonii*, is a fine brilliant variety. For purple, take the *Boursault Purpurea*.—Anne Maria, a rosy pink, and Mrs. Hovey, a pure white, are also good sorts,

Climbing Plants over the House.—Chr. Vogt, Jefferson Co., Wis.—*Cobaea Scandens* (No. 165 of our free seed list), and Chinese Wistaria (to be had of nurserymen), are fine plants for training over the side of a house. Other good climbers are mentioned on page 51 of the present number.

Perfect and Imperfect Strawberries.—P. B. Wenner, Columbia Co., Pa., and others. Some of the leading hermaphrodite, or perfect strawberries, requiring no other sorts with them, are: Austin, Boston Pine, British Queen, Early Scarlet, Fillmore, Genesee, Hooker, Iowa, Jenny Lind, Longworth's Prolific, Peabody, *Triomphe de Gand*, Walker, *Wilson's Albany*, etc. A few of the pistillate sorts, requiring, say about one tenth as many of one of the above varieties to fertilize them, are: Burr's Pine, *Crimson Cone*, Cutter's Seedling, Eclipse, Hovey, McAvoy's Superior, Ward's Seedling, Western Queen, etc. It was formerly supposed that the pistillates produced better than the hermaphrodite, but such abundant bearers as Wilson's, Hooker, Walker, Longworth's Prolific, etc., overthrow this theory.

Bulbs in Pots.—H. H. Huntress, Hillsboro' Co., N. H. Both Summer and Winter bulbs, (Autumn and Spring flowering) can be grown in pots. The treatment is nearly the same for each. More care will be needed in Winter to protect from frost. The crowns should be two inches below the surface in Summer—one inch in Winter. If in glasses of water, let only the roots touch the water.

Early Peas.—These may be obtained by planting in long strips of turf and keeping them in the cellar, or any place away from frost. They may be gradually exposed, and then planted out when heavy freezing is over.

Loam with Manure.—"Novice."—You are undoubtedly right in your conclusions. Though less of the valuable ammonia escapes from moist manure than has been generally supposed, yet there is some loss, and the admixture of loam will absorb and retain it. The amount to be added will depend on the labor involved, richness of the material, and its consequent value to the soil where it is to be applied. An equal bulk is ordinarily enough. Muck, black earth, or sods, are superior to loam, because they are, in themselves, valuable as manures. Of these, the more the better.

An Unwise Idea.—A man in Michigan recently declined subscribing for the *Agriculturist*, "because he had a number of hired men, who would take too long a nooning, if they should get hold of the paper." Without doubt that man has often been annoyed with losses caused by the ignorance of employees. A few moments spent daily in reading any good agricultural journal would be paid for many times in the course of the year, by giving to the men just the information needed to enable them to work intelligently.

Pears on the Butternut.—Abraham Marshall, Northumberland Co., Pa. The pear will not succeed grafted on the Butternut; the difference in their habits of growth is too great. We have seen them growing on the apple tree, and cases of success on the Mountain Ash are reported, but they are of little reliability. No better stock is known for pears than the pear itself, or the Angers Quince for dwarfing.

Peruvian Cotton.—An invoice of Peruvian cotton has been received in this city, by way of Panama. The Journal of Commerce states that it is part of a shipment of 1500 bales on the way to Europe. The quality is very beautiful, and the samples shown would sell readily at 15 cents. The plant from which it is taken, is said to be a perennial shrub, indigenous to the soil, and needing only a little labor by the way of cultivation, to yield large results. We give this as an *on dit*, not knowing how much reliance is to be placed upon the account, nor what the enterprise may lead to.

Sheep and Dogs in Massachusetts.—The Massachusetts Board of Agriculture held its annual meeting the second week of Dec. Among several valuable reports presented, was an elaborate and interesting paper on sheep husbandry, by J. S. Grinnell, of Greenfield. The writer shows the advantage of mutton over other meats for the table, stating that the Scotch and English have demonstrated mutton to be cheaper and more nutritious than beef, and that sheep exhaust pastures less than cattle. He prefers the middling and coarse woolled varieties. The census statistics show that the number of sheep in Massachusetts has decreased more than 260,000 in 20 years. The State has now 112,000 dogs and 113,000 sheep! He refers to the fact that in Ohio the loss by dogs was over \$140,000 in one year.

Starting a Nursery.—Wm. S. Ridgely, Newtow Co., Mich., and others. The most feasible plan for such enterprises is to commence on a small scale and enlarge as the business grows. In this way have originated the most extensive establishments in the Eastern States.

Mulching strawberries with Cut Straw.

—The advantage of covering the ground around strawberries with straw, have been fully set forth in the *Agriculturist*. This is generally done in Spring before fruiting. A correspondent recommends putting on a coat of short cut straw in Autumn or Winter, and taking it off from the leaves and stems in Spring, when not done by rains and wind. The advantages claimed, are: that it prevents the killing of the plants by freezing and thawing, the latter part of Winter; that it keeps the weeds down in Spring; and that it prevents the soiling of the fruit by contact with the ground; and also acts as a manure by its gradual decay.

Value of the Black Currant.—The following is extracted from *Le Jardin Fruitiier du Muséum, France*: The planting of the black currant bush was commenced in 1841 at Dijon, and a small portion of wine was then made. It was so well liked, that since then some two millions of currant bushes have been planted. In some places the grape has given place to the currant, the cultivation of which is rapidly increasing; but the supply of fruit is not yet equal to the demand. Each bush yields from 2 to 5 pounds, for which the manufacturer pays five to six cents per pound. An acre yields a profit of from \$100 to \$200. The bushes are planted in trenches 4 feet 3 inches apart, and 15 inches deep; the plants being placed some distance asunder. It is worth a trial at least by cultivators in this country.

To Make a Barren Plum Tree Bear.—Mary A. West, Harford Co., Md. Early in Spring fasten a strap or cord tightly around the body of your young tree near the first limb, and let it remain all Summer. This will check the upward flow of sap, and often promote bearing. Also cut back the ends of the leading shoots, say the middle of June, so as to induce the formation of fruit buds. The effect upon fruiting will not be seen until the following season.

For Insects and Moss-covered Trees.—

When orchard trees are infested with insects or moss, the *Gardeners' Chronicle* recommends that the bark be well scraped with a blunt tool, after which, a coat of the following composition is useful, viz.: hot lime and soot in equal quantities mixed with water from the cow house until it attains the consistency of thick paint. It should be well rubbed into the crevices of the bark. If a little cow manure is worked into the composition, it will adhere better. (Cow manure or other fertilizers worked into the soil at the roots, or means adopted to make the trees grow vigorously, are the best antidote for moss.—*Ed. Agriculturist*.)

Potatoes under Straw.—Theodore Schenk,

Posey Co., Ind., writes to the *Agriculturist* that his neighbor last year planted $\frac{3}{4}$ acre with potatoes, by laying them upon the surface, and covering them with straw about one foot deep. He harvested 100 bushels of excellent potatoes, which was greater than any previous yield from the same land. On wet, undrained land, in localities where straw is abundant, the plan may occasionally answer, but its general utility is doubtful. Better drain the land, make manure of the straw, and mix it thoroughly with the soil.

Illinois as a Farming State.—In many respects we consider Illinois as literally the "Empire" farming state. Almost the whole surface is tillable, and very much of it, rich prairie soil. The broad navigable Mississippi extending along its whole western border, with St. Louis and other flourishing towns upon its banks; the Ohio river on the south; Chicago the port of the Lakes on the north; Dunleith on the northwest; Cairo at the south, directly accessible to all the lower Mississippi; the numerous railroads crossing the State, and running to all the principal eastern cities, and that grand stretch of iron track, the Illinois Central Railroad, which with its two branches joins the Northeastern, Northwestern and Southern points, and unites the whole of the crossing roads—all these conspire to furnish the greatest possible market facilities. We have traveled over nearly every mile of the railroads of Illinois to see the country, and when we recall the magnificent panorama of the State as it is now spread out in the mind's eye, we feel very much like dropping our pen and going to be one of the "Illinois Farmers." Well, we have wandered from the purpose of this paragraph, which was simply to direct attention to the advertisement of its lands by the Illinois Railroad Company on another page. We almost forgot the railroad in thinking of the State. We are glad, also, to feel such an interest, as we can not help having, when a whole army of readers of the *Agriculturist* is scattered over the surface of the State. Our large mail book of nearly 500 pages tells the story of their number.

For the "Farm Garden and Household."

—One German friend in Indiana, don't like the household and children's department; thinks the ladies should get their instruction while young, etc. The answer we give, is to ask him to read the first 20 pages of each number, and

stop there—if he don't get a dollar's worth out of 240 pages in a year, we can't do more for him. The paper is professedly for the farm, the garden and the household, and must live up to its profession. That farmer is poorly off, who has not a good indoor establishment—wife included. Suppose, again, friend, that other men are not, like you, blessed with a help-meet who learned everything while young. Shall we not publish something to instruct such persons?

Wheat in New-England.—The New-England Farmer estimates the product of wheat last year, at three times that of former years, and attributes the result in a great measure to the attention awakened by discussions in Farmers' Clubs, and in the Agricultural journals and books. In some towns in Cheshire County, N. H., enough was raised for the entire home demand.

Oats on a Wheat Head!—Wilson Rogers, Erie Co., N. Y., writes that last Fall he found a wheat head on which were growing three distinct kernels of oats. He inquires if this be something new. Yes, the most surprising novelty in vegetation we have heard. If the specimen be preserved, please forward it—if not, pardon us for thinking there was some mistake, though our informant did "see it with his own eyes."

Scotch Fife Wheat in Minnesota.—The Rural Minnesotian says that Mr. T. J. Van Hook, of Winona Co., harvested and threshed the product of thirty acres of wheat of the Scotch Fife variety, sowed last Spring, which yielded 930 bushels, or 31 bu. per acre. It was raised on stubble ground, and harrowed in without plowing.

Abortion in Cows.—David Fairlove, Randolph Co., N. C. Injury by over exertion, or fright, as from a dog, will sometimes cause the cow to sink her calf. A substance called ergot, which grows upon grass or rye heads, will also produce it. Sometimes no reason can be given. It is remarkable that when a cow is thus affected, others of the same herd will often lose their calves, apparently from sympathy. When an animal shows symptoms of this trouble, she should at once be separated from the rest of the herd.

Keeping Cattle Clean.—B. R. Phelps, Jr., Scott Co., Iowa, writes that he keeps the bedding of cows and other cattle clean by nailing a board across the stall, a few inches above the floor, just behind the animal's heels. The excrements fall outside of the board, which also keeps the bedding from being thrown upon it by the cattle's feet. Will they not bedaub the board, and then rub their legs against it? And will they not stand or lie in a cramped position, if thus boarded in?

Burning off Calves' Horns.—A subscriber inquires how this can be done safely, so as to prevent future growth. He thinks it desirable, in order to prevent accidents. We should consider the loss of an animal's horns a sad accident, and would deprecate any such barbarity. If young cattle are properly treated from the beginning, there is but slight danger of their proving vicious. A board properly fastened across the horns, will prevent any serious damage from the head of a turbulent ox.

Novel Chicken Question.—Mr. Jones' hen sat a week on a dozen eggs, when Mr. Smith's turkey drove her off, hatched all the chickens, and took them home to Smith's. Ought Mr. Smith to pay for the chickens, and if so, how much apiece? A Connecticut judge is said to have awarded 8 cents apiece in a similar case tried before him—he deducted four cents each for the services of the turkey.

New Process for Keeping Nails from Rusting.—A Belgian, named Stipheen, has made a discovery which may be of some utility; it is that the rusting of nails employed to fasten the branches of fruit trees to walls, can be prevented, by driving into the wall, in contact with the nail, a small piece of zinc. In giving an account of his discovery to the Agricultural Society of Ghent, Mr. S. exhibited nails which had been eight years in walls in contact with a piece of zinc, and which were not at all rusty.

Destroying Moles.—E. Y. B., Wallingford, Conn., writes that he destroyed the moles which infested his garden badly, by soaking corn in a solution of corrosive sublimate and placing it under the surface in their tracks. A small hole was carefully opened in the track, the corn introduced and covered with a flat stone to prevent the fowls scratching it up.—Do moles eat corn?

Earth Worms Troublesome.—Mrs. W. H. Cook, Adams Co., Pa., inquires for a remedy for earth worms which have become so abundant about house plants as to injure their roots. They can easily be excluded from pots or boxes, by sifting the earth and resetting the plants. Out of doors, they are generally considered rather beneficial than otherwise; as they loosen the soil and open it for drainage and ventilation. Have

any of our readers found them destructive? If so, what efficacious means were used to expel them.

Keeping Meat under Ground.—H. Clark, of South Carolina, communicates to the *Scientific American* a mode of curing meat in the hottest climate, which has been practised at the South many years. A hole is dug in the earth, 4 to 6 feet deep, of any required size, the meat packed in salt at the bottom, and the whole covered with boards and earth, keeping it in this condition, until sufficiently salted. By this means, he says, no one need lose a pound of meat in the warmest climate.

To avoid a Cold.—Change the stockings two or three times a day, if they become wet from perspiration. Avoid cold draughts of air upon any part of the body; or unequal temperature from any cause, such as evaporation of moisture from wet clothes on a portion of the person. The clothing wet all over, is less productive of colds than when partly wet. You might jump naked into a snow bank and not take cold, but receive serious injury from immersing only a hand or a foot in the snow, while the rest of the body is kept warm. Unequal temperature upon different parts of the body, disturbs the circulation of the blood and produces a cold. The best precaution, however, is to keep the system vigorous by temperance, by a generous diet of digestible food, with plenty of sleep.

Death in the Toy Shop.—The editor of the *Chemical News* (Eng.), noticing the extreme brilliancy of the green paint with which some toys were decorated, purchased three or four and subjected them to analysis. He found so much arsenic in the form of arsenite of copper present, as to render such playthings dangerous in the hands of children, especially of infants, who always submit the brightest colors to the test of taste.

Business Notices.

Eighty Cents a Line of space.

Farm for Sale or to Hire.

A valuable Farm of 82 acres in New-Jersey, near New York, good land, well situated, and near churches, schools, &c. About 60 acres under cultivation. There is good furniture in the house—also horses, oxen, cows, &c., on the place, with wagons and farming utensils of all kinds, which will be sold with it—and at a great bargain for a small payment down. All the credit which may reasonably be required on the balance (in annual instalments,) will be given. For further particulars, address

U. B. BREWSTER, Jr., (Box 362 P. O.) New-York City.

Also—A place of about 15 acres in the *City of Madison, Wisconsin*, with a good house, and excellent state of cultivation, grape, &c., being within the city limits, and the capital of the State, and the most beautiful city in the West. It will be sold low to close an estate, and will be a fortune to the purchaser in a few years, as the city must have it for building purposes—meantime a market is at the door for all its produce, &c. ADDRESS AS ABOVE.

WHEELER & WILSON'S SEWING MACHINES, With Important Improvements at Reduced Prices.

These great economizers of time and preservers of health, have won the highest premiums at the Fairs of the United States Agricultural Society, at the State Fairs of Maine, Vermont, Connecticut, New-York, New-Jersey, Pennsylvania, Virginia, Mississippi, Missouri, Ohio, Indiana, Illinois, Kentucky, Michigan, Wisconsin, California; and at the Fairs of the American Institute, New-York; Mechanics' Association, Boston; Franklin Institute, Philadelphia; Metropolitan Mechanics' Institute, Washington; Mechanics' Institute, Baltimore; Mechanics' Association, Cincinnati; Kentucky Institute, Louisville; Mechanical Association, St. Louis; Mechanics' Institute, San Francisco, and at hundreds of County Fairs.

"There is no better family machine than this made, as we have proved by nearly three years' use in our own family. We want no better."—*American Agriculturist*, December, 1860.

Office, 505 Broadway, New-York
SEND FOR A CIRCULAR.

ITALIAN BEES.

Orders will now be received for these bees to be delivered in the Spring. A circular will be sent to all applicants enclosing a stamp. In it will be found the terms and also reports from Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Baldrige, and others, testifying fully, from actual observation, to the great superiority of this race over the common bee.

S. B. PARSONS,
Fushing, N. Y.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday, January 18, 1861.

Owing to the occurrence of Christmas, New-Years, and the National Fast, January 4th, we have had only twenty three business days, since our last monthly review, which has, of course, lessened the aggregate transactions in the Breadstuff markets. To understand the condition of the markets it is necessary to refer to the transactions of last year. The arrivals of grain and Breadstuffs at this City from the interior, during the year 1860, were enormous, especially of corn and wheat. Thus: in 1860 we received 17,072,796 bushels of wheat, against 3,618,092 bushels, in 1859. Of corn we received 11,470,638 bushels in 1860, against only 2,695,818 bushels in the previous year. Of wheat flour, 3,581,420 barrels in 1860, and 3,191,822 in 1859. But the export demand was correspondingly large; thus: during 1860 we exported to Europe, 1,926,202 barrels of flour; 13,523,039 bushels of wheat; and 3,720,786 bushels of corn; while the total exports of the previous year amounted to only 983,516 barrels of flour; 297,587 bushels of wheat; and 186,646 bushels of corn. This large export last year left us at the close, comparatively moderate supplies, the total stock on hand Jan. 1st, 1861 being 581,711 barrels of flour; 3,535,711 bushels of wheat; and 2,712,000 bushels of corn. (The tables below show the comparative stocks of various articles for two years.) As but limited additions can be made before water navigation opens in Spring, it will readily be seen that the usual home consumption, with but a moderate export, will entirely exhaust all we have now on hand. In our last, we referred to the great deficiency of Breadstuffs in Great Britain, and to the fact that the lack could only be made up by drawing upon this country. We also stated that large shipments began in November and December, but were checked in the latter month by the fall in exchange, and other causes. This depressed prices for the time being. Numerous orders were subsequently sent forward from Europe, but they were based upon the temporary low prices here in December, and before their arrival, the influx of gold and the diminishing effect of political influences upon business, had so far restored prices, that the orders could not be filled within the limits assigned by those sending them forward. The result has been, that within the past two weeks few shipments have been made, and prices have slightly declined, but not enough to allow of the filling of foreign orders. Prices would go still lower, but holders of Breadstuffs, knowing that our stock is light and that Europe wants food and must get it here, at any reasonable price, are keeping their flour and grain on hand with much firmness. The general belief is, that so soon as there is a return from the later reports gone out to Europe of the rise here, new orders will come forward, and an active export will be renewed. So strong is this conviction, that nothing but the constant political agitation prevents large transactions among speculators. As we write, dealers are at a stand still, awaiting foreign news. Before this paper can reach a majority of our readers, it is probable that there will again be much activity in this market, and that somewhat higher rates than our present quotations, will be reached, though the present prices are partly based upon an expected demand. We have carefully examined the best sources of information, of the state of the supplies of Breadstuffs in Europe up to December 31, the date of our latest advices, and we can see no reason to doubt that there will be a continued demand for American products for a long time to come. The wet Summer and Autumn not only largely diminished the yield of the last crop, but it also greatly retarded the Fall sowing, so that the next crop must be materially affected. The result can hardly be otherwise, than that fair prices will be obtained for the large supply of grain still in our Western and Middle States. When navigation opens, this grain will come forward; and the proceeds will help pay up the merchants; they will pay the merchants of this City, who will in turn increase their imports of merchandise which Europe will gladly send forward to pay for the grain received from us. The abundance of money in this City (the Banks hold nearly \$30,000,000 of specie,) will aid in setting in motion the current of trade, and prevent another blocking of the wheels, such as occurred in Autumn last. So we read the future. With the abundant supplies of farm produce now in the country, and the foreign demand for them; it is next to impossible that we should have "hard times." Political excitements, it is true, may temporarily produce a panic, as happened recently, but they can have no permanent effect. The tide of commerce moves on according to fixed laws. Its surface may be ruffled and thrown into a foam even, by sudden squalls, but the current beneath will flow on, little disturbed, in its accustomed channel. The contraction begun in 1857, has largely diminished the aggregate of individual debt, and the country, taken as a whole, is now richer than ever before. There is every inducement to cultivators to take courage, and prepare to enter upon the labors of the coming season with vigor. Recovery from severe prostration like that of three years past, can not be looked for in a day, but there is a pleasure in feeling that we are convalescent. There was a material advance early in this month in the price of Cotton, amounting to 2c. @ 2½c. per lb., with heavy sales, at the rates 12½c. @ 15c. for Middling Uplands. Within a week or ten days past speculators have been less active, and prices have fallen off ¼c. @ ½c. per lb., and the present rates are 12½c. @ 12½c. The telegraph reports large receipts from inland, at the Gulf Ports. In the Provision line, the only important changes have been in hog products, which have been more sought after and have advanced. Hay and Hops have been in fair demand. Wool has been more freely purchased but at lower rates. The political troubles in South Carolina, having diminished the receipts of Rice, this article has been in brisk request for shipment and on speculation, at decidedly higher prices. The stock in first hands is now limited, and a further rise in prices is anticipated, although the demand is much less active than it has been. Good, clean Clover seed has been in light supply, and has been much wanted for shipment. It is dearer than it was a month ago, as will be seen by reference to the tables below. The transactions in most other branches of trade have been restricted. MONEY is abundant and seeking investment at low rates of interest, for short periods, on undoubted, easily convertible securities. Little can be obtained on bonds and mortgages that can not be converted into money again. The amount of collections at the West, for Eastern creditors, have been so large that it has been difficult to procure exchange enough on Eastern cities to send forward. Eastern Bank bills have commanded a high premium in the Western States, and but little is left in circulation; while, on the contrary, Western money has been necessarily sold at a large discount here, from the fact that it has not been readily convertible into gold or exchange, when sent West. Bills on the best Banks in Ill., Wis., Iowa, and Missouri, have been held at 10 @ 15 per cent discount. The rates are now down to 7 @ 8 per cent. As soon as navigation opens so that this money can be forwarded for grain, the discount must be materially decreased—if the Banks strengthen themselves with sufficient securities to render their bills safe. The banking laws of the States referred to would seem, however, to need some revision. The bills on the Banks in Ohio, Kentucky, and Indiana, are worth here within one per cent of par, while Illinois money, just over the line from the last named State, is 7 to 8 per cent less valuable. Merchants and others who have remittances coming from the West, in Bank currency, are feeling this depreciation in the currency, materially.

CURRENT WHOLESALE PRICES.

	Dec. 19.	Jan. 18.
Flour—Super to Extra State	\$1 65 @ 5 15	\$3 20 @ 5 55
Superfine Western	4 60 @ 4 75	3 20 @ 5 55
Extra Western	5 00 @ 7 00	5 40 @ 7 25
Fancy to Extra Genesee	5 20 @ 7 00	5 60 @ 7 25
Super to Extra Southern	4 90 @ 7 00	5 80 @ 7 50
RYE FLOUR—Fine and Super	3 20 @ 4 00	3 30 @ 4 15
CORN MEAL	3 00 @ 3 40	3 10 @ 3 60
WHEAT—Canada White	1 25 @ 1 30	1 45 @ 1 55
Western White	1 27 @ 1 40	1 45 @ 1 55
Southern White	1 30 @ 1 40	1 47½ @ 1 57½
All kinds of Red	1 05 @ 1 20	1 18 @ 1 38
CORN—Yellow	64 @ 66	72 @ 75
White	65 @ 68	71 @ 73
Mixed	62 @ 64	69½ @ 71
OATS—Western	37 @ 38	36 @ 37
State	38 @ 38½	37 @ 38
Southern	35 @ 37	33 @ 35
RYE	68 @ 67	73 @ 75
BARLEY	70 @ 82	65 @ 80
HAY, in bales, per 100 lbs.	75 @ 1 00	85 @ 1 10
COTTON—Middlings, per lb.	10½ @ 10½	12½ @ 12½
RICE, per 100 lbs.	2 50 @ 3 75	3 75 @ 4 75
HOPS, crop of 1860, per lb.	25 @ 32	25 @ 32
HOPS, New Mess, per bbl.	16 00 @ 17	17 25 @ 18 25
Prime, new, per bbl.	11 50 @ 11 75	13 12½ @ 13 25
BEEF—Repacked mess	9 25 @ 10 00	8 25 @ 9 75
LARD, in bbls, per lb.	9½ @ 10½	8½ @ 10½
BUTTER—Western, per lb.	10 @ 15	10 @ 15
State, per lb.	15 @ 20	14 @ 19
CHEESE	9 @ 11	8½ @ 10½
Cheese—Fresh, per dozen	21 @ 25	20 @ 25
Western, per doz.	18 @ 22	19½ @ 20
POULTRY—Fowls, per lb.	9 @ 12	8 @ 10
Chickens, per pair	9 @ 12	10 @ 12
Geese, per lb.	6 @ 12	7 @ 10
Ducks, per lb.	10 @ 15	10 @ 12
Turkeys, per lb.	10 @ 12	10 @ 12
Fat, per pair	50 @ 62	37 @ 50
VEGETABLES		
FEATHERS, Live Geese, p. lb.	44 @ 50	40 @ 48
SEED—Clover, per lb.	7½ @ 8½	8½ @ 9
Timothy, per bushel	2 50 @ 2 75	2 62½ @ 2 75
SUGAR—Brown, per lb.	4½ @ 7½	5 @ 7½
MOLASSES, New Orleans, p. gal.	30 @ 35	35 @ 39
COFFEE, Rio, per lb.	10½ @ 13	10½ @ 13
TOBACCO—Kentucky & p. lb.	2½ @ 3	2½ @ 3
Seed Leaf, per lb.	5 @ 25	6 @ 25
WOOL—Domestic fleece, p. lb.	32½ @ 57½	28 @ 55
Domestic, pulled, per lb.	27½ @ 45	24 @ 42
HEMP—Underd Am., per tun.	145 @ 160	None selling.
Dressed American, per tun.	185 @ 215	215 @ 235
TALLOW, per lb.	9 @ 9½	9½ @ 10
OLIVE OIL, per 50 lbs.	28 00 @ 30 00	32 75 @ 37 50
APPLES, Prime, per bbl.	1 50 @ 2 00	1 75 @ 2 50
Medium, p. bbl.	1 25 @ 1 50	1 50 @ 1 75
Common, per bbl.	50 @ 1 00	75 @ 1 25
Extra Dessert Apples	2 50 @ 3 00	2 50 @ 3 00
Dried Apples, per lb.	3 @ 4	3 @ 4
Dried Peaches, per lb.	5 @ 12½	8 @ 13
POTATOES—Per 50 lbs.	2 00 @ 2 50	2 45 @ 2 75
Peach Blows, p. bbl.	1 75 @ 2 25	1 87 @ 2 50
Sweet, Virginia, per bbl.	3 25 @ 3 50	2 00 @ 3 50
ONIONS, Red, per bbl.	1 75 @ 2 12	1 12 @ 1 38
White, per bbl.	2 50 @ 3 50	2 00 @ 2 50
CABBAGES, per 100	75 @ 1 12	63 @ 75
CABBAGES, per 100	4 00 @ 8 00	3 00 @ 5 00
SQUASHES, per 100	1 50 @ 2 00	1 00 @ 1 50
CELERY, p. dozen	75 @ 1 00	75 @

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
23 days this month	104,670	75,500	57,100	19,150	47,600	89,750
25 days last month	489,809	3,691,500	778,000	14,120	167,800	817,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
23 days this mon.	315,000	1,506,000	1,432,000	15,750	54,000	54,000
25 days last month	325,000	1,752,000	1,240,000	23,450	312,000	312,000

The following Tables will be found interesting and valuable for present examination, or for future reference.

Stock of various articles in New-York, Jan. 1.

	1860.	1861.
Ashes, bbls.	1,331	698
Cotton, bales	49,519	68,149
Flour, bbls.	917,520	581,996
Grain—Wheat, bushels	1,915,338	3,535,711
Corn, bushels	79,400	2,712,000
Rye, bushels	30,100	26,400
Barley, bushels	886,795	169,574
Oats, bushels	1,576,100	494,790
Hay, bales	20,000	10,000
Hemp, tons	100	22,266
Hemp, bales	27,480	190
Hemp yarns, tons	450	11,226
Provisions—Pork, bbls.	41,121	53,574
Beef, tcs. and bbls.	80,818	53,574
Rice, tcs.	4,342	4,342
Rice, bags	22,203	3,202
Sugars, hhds.	20,620	16,758
Sugars, boxes	26,638	141,488
Sugars, bags	8,644	19,048
Tobacco, hnds.	10,163	8,880
Tobacco, bales	55,202	67,367
Tobacco, manufactured, pkgs.		6,200
Wool, foreign, bales		

Receipts at New-York, in each of the last three years.

	1858.	1859.	1860.
Ashes, bbls.	18,769	24,736	23,191
Breadstuffs—			
Wheat Flour, bbls.	3,896,520	3,191,822	3,581,420
Corn Meal, bbls.	97,793	92,701	109,731
Wheat, bush.	4,319,919	3,818,092	17,072,796
Rye, bush.	327,454	334,491	206,008
Oats, bush.	2,149,233	4,226,960	4,685,656
Barley, bush.	735,275	1,527,400	1,251,007
Corn, bush.	7,952,453	2,695,818	11,470,638
Cotton, bales	422,871	457,139	493,083
Provisions—			
Pork, pkgs.	168,618	163,121	88,090
Beef, pkgs.	123,022	161,707	99,820
Cut Meats, pkgs.	99,909	73,359	62,292
Butter, pkgs.	400,851	353,648	437,164
Cheese, pkgs.	500,029	599,140	805,143
Lard, pkgs.	100,225	91,100	83,342
Rice, tcs.		76,209	68,930
Whiskey, bbls.	140,380	103,463	187,779

Exports from New-York, in each of the last three years.

	1858.	1859.	1860.
Ashes—Pots, bbls.	12,020	16,846	14,723
Pearl, bbls.	1,764	2,625	3,650
Breadstuffs—			
Wheat Flour, bbls.	1,381,039	938,516	1,926,202
Rye Flour, bbls.	5,002	6,211	8,614
Corn Meal, bbls.	66,469	77,810	89,574
Wheat, bush.	286,461	297,587	13,538,036
Rye, bush.	12,487		450
Oats, bushels	31,815	9,568	103,076
Barley, bushels		6,550	8,280
Corn, bushels	1,647,706	186,646	3,720,726
Cotton, bales	144,957	200,261	216,889
Hay, bales	32,104	25,206	20,977
Hops, bales	3,052	343	32,641
Provisions—			
Pork, bbls.	78,471	130,371	91,650
Beef, bbls.	76,640	122,802	40,003
Beef, tcs.			55,328
Cut Meats, lbs.	15,944,743	6,692,589	19,447,161
Butter, lbs.	1,808,157	2,494,650	10,987,495
Cheese, lbs.	6,580,100	9,287,408	23,252,712
Lard, lbs.	12,684,100	11,015,412	18,666,178
Rice, tcs.	41,651	41,888	25,695
Rice, bbls.			28,838
Tallow, lbs.	1,563,292	3,405,395	14,895,969
Tobacco, crude, pkgs.	66,239	72,918	93,031
Tobacco, Mf., lbs.	1,479,909	6,148,281	6,561,160

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been rather scantily supplied during the past month, only 13,904 head, or 3,475 per week, being received against 4,750 per week for the previous month. Besides this decrease in numbers, the cattle are not as heavy as those brought in a month ago, and the amount of beef is very much less. Pork and mutton supply the deficiency, however. Prices have advanced about ¼c. per lb., ranging at the last general market, January 16th, from 9½c. to 10c. per lb., estimated dressed weight, for prime grades; 8c. @ 9c. for medium to good, and 6½c. @ 7½c. for poor and common stock, with an average of 8½c. for all sold. The average weekly receipts for last year was 4,360, and the average price scarcely varied from last week.

VEAL CALVES.—Receipts lighter than any previous month for a year past, or only 322 per week. Prices are higher, prime calves readily bringing 6½c. @ 7c. per lb., live weight. There was an average of 722 calves per week brought in during the last year.

SHEEP AND LAMBS have come in moderately, the receipts for the last four weeks being 31,745, or 7,936 per week—nearly 2,000 less than last month. Prices advanced materially during the early part of the month, prime sheep bringing 6c., and extras 6½c. per lb. live weight. With over 9,700 on sale the past week, the market drooped somewhat, the prevailing rates being 5c. for medium, and 5½c. for good sheep. During the past year 514,191 live sheep were received in New-York, which was an average of 9,888 head per week. The largest receipts were in November, when 17,287 head were brought in during one week.

LIVE HOOS.—Receipts since last report, 54,922, or an average of 13,730 per week. Prices ruled low, and packers have been actively engaged. The lighter arrivals of the past week (11,332) caused an advance of ¼c. They are now selling at 5½c. @ 5½c. per lb., live weight, for corn-fed, and 5½c. @ 6½c. for still-fed. Present demand

good. For the year 1860, the receipts of live hogs were 319,620, or 6,147 per week.

The Weather, since our last report, has been variable, with little snow, however, and only a few touches of genuine Winter.—OUR DAILY WEATHER NOTES, condensed, read thus:—December 20, clear, mild—21, rain—22, cooler—23, to 27, cool, clear, and pleasant—28, 29, cool and cloudy—30, clear A. M., rain P. M., with one inch of snow at night—31, cloudy.—January 1, clear and fine—2, clear, rain at night, snow gone—3, cloudy and light rain—4, 5, clear and mild—6, clear, fine, rain at night—7, cloudy, light rain—8, cloudy, warm—9, cool, snow storm P. M., and at night, making fair sleighing, but two inches of snow fell—10, cloudy A. M., clear P. M.—11, clear and very cold—12, clear and cold, mercury 12°; cloudy P. M., with 2 or 3 inches more snow at night—13, coldest day thus far; mercury from 0° to 4° below, according to locality; fine sleighing—14, cold, 8°, light snow during day, ending with rain at night—15, cloudy, soft, rain at night—17, rainy day, and snow disappearing—17, clear, warm, spring-like weather—18, rain storm.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit.)—r indicates rain, s, snow.]

DECEMBER.

1.....38s	8.....32s	14.....16	20.....52r	26.....28
2.....30	9.....23	15.....12	21.....38	27.....28
3.....32	10.....32s	16.....15	22.....40	28.....27
4.....34s	11.....36	17.....28	23.....24	29.....28
5.....28	12.....28	18.....25	24.....23	30.....33r
6.....29	13.....34	19.....25r	25.....24	31.....34r
7.....33				

JANUARY.

1.....22	4.....31s	7.....37r	10.....27	13.....0
2.....26	5.....28	8.....40	11.....14s	14.....10s
3.....24r	6.....28	9.....32s	12.....22s	15.....33

Seeds for Free Distribution in 1861.

[SEE REMARKS ON PAGE 64.]

Each subscriber for the twentieth volume of the *American Agriculturist* (1861) is invited to select four or five parcels of seeds from the list given opposite—provided the following conditions be noted and complied with.

A. It is of absolute importance that the following directions be strictly carried out, even to the minutest particulars. We have 77 distinct varieties of seeds, to be distributed among 100,000 or more persons scattered all over the country, which at the best will involve immense labor, and occasional mistakes must unavoidably occur, unless each subscriber take special pains to facilitate the work.

B. The seeds can be called for at the office, (after Feb. 20,) or be sent by express, or in ready prepared envelopes furnished by the subscribers, as described (E.) below.

C. Subscribers at different points can estimate whether they can receive their seeds cheapest by Mail to separate individuals, or in a package to the whole Club by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, using the numbers in the Catalogue. Keep a copy of the list sent, and give particular directions on each list, how the package is to be forwarded, and to whom directed.

E. If to go by mail, the applicant will (of course) furnish prepaid envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelope, and put all the postage stamps upon the right side of the envelope,—one above the other, when two or more are needed, as shown in this pattern. Arranging the stamps thus, will prevent the seeds being crushed in the stamping process in the Post-Office. One ordinary envelope will generally hold the amount of seed-packets carried by two or three stamps. The amount of stamps can be calculated from the Catalogue. Single 1-cent stamps on letters are of no value, unless there be even three of them, as letter postage is rated by the half ounce.

F. Let all letters referring to seeds, be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seed should be on a slip of paper, separate from subscriptions and other matter. (We shall probably distribute over five hundred thousand packages, and a minute's time saved on each of these would amount to 833 working days—or nearly three years!)

G. Canada subscribers, and after this date those on the Pacific Coast, will need to substitute U. S. 10-cent stamps (or money) in all cases where 3-cent stamps are named in the catalogue. When several persons send together, it will usually be cheaper to receive seeds by Express. (Postage is not necessarily prepaid here, on Canada letters.)

H. Always put the stamps upon the envelopes, and not drop them loosely into the enclosing letter.

I. It is always better to send envelopes of the ordinary size, and made after what is called the "Government pattern"—that is, those in which the back comes fully up under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelope the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed.

L. Those forwarding unpaid envelopes, will, of course, not be disappointed if they do not return. We offer seeds free, but can not, in addition, afford to pay postage also.

M. All seeds sent by mail are put up in our country residence, and each package is there mailed direct, to avoid its being overhauled at the Distributing offices.

N. We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of February, and March. Those going to distant points, and where the seasons are earliest, will be mailed first.

Seeds to California, Oregon, and Washington Territory.—For these Territories all seeds applied for before Feb. 20, went by express. All seeds sent hereafter, will go in the same manner as described above—but 10-cent stamps, instead of 8-cent stamps, will be required for all distances over 3000 miles from New-York.

LIST OF SEEDS.

[Descriptive Notes upon these seeds are given on pages 3, 4, and 5, of January number. The figures denote the order in which the seeds have been added to our Free Seed Catalogue. These numbers are upon all packages, seed drawers, etc., and are used in place of the names of the seeds.]

Field Seeds.

140—Imported Giant Wheat, requires $\frac{1}{2}$ of a 3-cent stamp for postage on each package.

2—Improved King Philip Corn—Single, double, or triple packages, as desired, requiring one, two, or three stamps.

3—Stowell's Sweet Corn.....Same packages as No. 2.

141—Darling's Early Sweet Corn.....Same packages as No. 2.

142—Yellow Stone Turnip..... $\frac{1}{2}$ of a 3-cent stamp.

143—Waite's Eclipse Turnip..... $\frac{1}{2}$ of a 3-cent stamp.

98—Long Red Mangel Wurzel.....One 3-cent stamp.

101—Improved Long Orange Carrot..... $\frac{1}{2}$ of a 3-cent stamp.

Vegetable or Garden Seeds.

8—Daniel O'Rourke Pea.....Packages same as No. 2.

9—Champion of England Pea.....do. do.

58—Napoleon Pea.....do. do.

130—Great Eastern Pea.....One 3-cent stamp.

12—Green Kohl Rabi.....One-third of a 3-cent stamp.

13—Enfield Market Cabbage.....do. do.

145—Flat Dutch (Winter) Cabbage.....do. do.

146—Early Battersea Cabbage.....do. do.

147—Neapolitan Cabbage Lettuce.....do. do.

148—Long dark Blood Beet.....do. do.

149—Extra early Bassano Beet.....do. do.

72—Solid White Celery.....do. do.

150—Early Paris Cauliflower.....do. do.

151—Yellow Danvers Onion.....do. do.

95—True Hubbard Squash.....do. do.

152—Fine large Cheese Pumpkin.....do. do.

153—Large Red Tomato.....do. do.

154—Ice-cream Water Melon.....do. do.

78—Skillman's Netted Musk Melon.....do. do.

103—Sage.....do. do.

155—Long Cayenne Pepper.....do. do.

156—Summer Savory.....do. do.

157—Long Prickly Cucumber.....do. do.

17—Red Strap-Leaf Turnip.....One half of a 3-cent stamp.

71—Long White French Turnip.....One 3-cent stamp.

107—Giant Asparagus.....do. do.

Flower, Fruit, and Ornamental Seeds.

89—Cotton Plant (2 kinds, mixed).....one 3-cent stamp.

114—Castor Oil Bean (Ornamental)..... $\frac{1}{2}$ of a 3-cent stamp.

On an average about five of the following varieties will go under a 3-cent stamp.

160—Raspberry Seed.....(for Experiments.)

161—Currant Seed.....do. do.

162—Gooseberry Seed.....do. do.

163—Strawberry Seed.....do. do.

23—Mignonette, (a.)

27—Extra Cockcomb, (a.)

29—Double Balsams mixed, (a.)

30—Tassel Flower, (a.)

31—Chinese Pink, (a.)

32—Portulaca, mixed, (a.)

33—Cypress Vine, (a.)

42—Foxglove, (b.)

49—Candytuft, (a.)

51—Phlox Drummondii, (a.)

56—Euphorbia, mixed, (a.)

87—Coreopsis, (a.)

123—Mixed Canterbury Bells, (b.)

123—Gilia nivalis, (a.)

124—Whitavia, (a.)

126—Long-tubed Centranthus, (a.)

164—Sweet scented Ageratum, (a.)

165—Cobaea Scandens, (p.)

a, annual—b, biennial—p, perennial.

PREMIUMS FOR 1861.

Vol. XX.

(Persons securing these premiums are requested to read the following remarks carefully, especially those referring to duplicated lists.)

After close figuring, and liberal terms from manufacturers, we find we can fully keep up the character of our paper, and even improve it, and yet offer the large premiums named below. These articles are offered as direct pay for time spent in canvassing for names. This year we make no distinction between new and old subscribers, though it is supposed that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it

DISTINCTLY UNDERSTOOD that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bills, needed by canvassers, will be freely furnished. We have a very attractive show bill for 1861.

Only one premium can be paid on the same subscriber.

Every person collecting names for premiums, can send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent, one of them marked at the top, "For premiums," also with the name of the sender. These duplicate lists will be kept on file by themselves, to be referred to in making up the premium when any person has completed sending in names for Volume XX.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this Journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, outspoken, and reliable, the special friend, advocate, and promoter of the farmer's interest, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in volume twenty, than in any preceding one. Onward, upward, is our motto.

Premiums A, to J, are offered for subscribers at the lowest club price (80c.), or at the regular price (\$1). Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$15 Sewing Machines, (including Hemmers) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of fifteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Gibbs' \$35 Sewing Machines*, including a set of Hemmers. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of Hemmers, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each,) will entitle the person getting up the club to one of the New \$10 Wringing Machines, described on page 217 of the *August Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the *August Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each,) will

entitle the person getting up the club to one of the best
\$8 Straw and Hay Cutters. [If preferred, the best
\$8 Subsoil Plow (two-horse) will be given.]

Premium G.

42 Subscribers at 80 cents each, (or **19** at \$1 each,) will entitle the person getting up the club to the new and enlarged **\$6 1/4 Pictorial Edition of Webster's Unabridged Dictionary.** This standard work comprises **1748** large 3-column pages. It is not only an ornament to every house, but is of great practical use; and its full definitions place it next to the Cyclopaedia as a source of general information. It weighs 8 lbs., and can go by express; or be sent by mail for 1 cent per ounce within 3000 miles, or 2 cents per ounce over 3000 miles.

Premium H.

40 Subscribers at 80 cents each, (or **21** at \$1 each,) will entitle the person getting up the club to one of the best **\$6 1/2 Hand Corn Shellers**—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or **16** at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the **4** previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post paid.

Premium J.

26 Subscribers at 80 cents each, (or **13** at \$1 each,) will entitle the person getting up the club to a **Pocket Microscope** with the celebrated "hour-glass," or Coddington lens, in a solid silver case. Sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post paid. **20** Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. **15** Subscribers at 80 cents each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for the extra postage required above the 6 cents per ounce which we pay.) This and the next premium, if sent with our box of seeds going to California in February, can go without the extra postage.

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each (or **123** at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or **105** at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4 1/2 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium Q.

130 Subscribers at 80 cents each (or **90** at \$1 each), will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$45 Melodeons* (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 850 of Nov. No.) to the amount of 12 1/2 cents for each name forwarded at 80 cents, (or 32 1/2 cents for each name sent at \$1), and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Send Duplicate Lists.

A Duplicate List of each lot of names sent for a PREMIUM must be forwarded, or we can not readily gather the names, when scattered through the entry books. If these lists are furnished, we can send off any premium the moment the required number of names are received. Always state definitely what premium is desired, and how it is to be forwarded.

Purchasing, etc., for Subscribers,

WILL BE DONE MORE FREELY HEREAFTER.

Hitherto, we have strongly and persistently objected to buying any article, or attending to any business whatever, outside of the paper—not merely on account of the trouble involved, but also to avoid even the appearance of being interested in the sale of any thing. The *Agriculturist* is, and must continue to be independent of any and every outside business.

But notwithstanding the oft-repeated desire, that no business orders be sent to this office, scarcely a day passes without many requests from distant subscribers who desire us "just for once," to get implements, plants, trees, seeds, books, magazines, etc., etc., for them, giving as a reason that they can not obtain the articles elsewhere, and do not know any one here to apply to with confidence. We have therefore concluded to make a virtue of necessity, and having increased our office force, we shall hereafter be able to be more accommodating.

Any subscriber, therefore, who may desire to procure any article not to be found near home, and not knowing where to get it of a reliable dealer, may send to us and we will aid him so far as is in our power.

As this matter is undertaken merely as an accommodation to our readers, to promote their convenience, and to save them from loss by falling into the hands of unreliable persons, or by purchasing worthless articles, we trust all will see the necessity of remembering that "time is money," especially in a city like this, where competent, reliable assistants are expensive.

Let all requests be as simple and definite as possible. If an article is wanted, describe it particularly, and in all cases state exactly how it is to be forwarded.—Send as nearly as possible the exact amount to be paid for it. If not certain on this point, send enough to cover all expense, and any surplus will be returned with the bill. When a reply is needed, a postage stamp should be enclosed.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.
 Fifty cents per line of space for each insertion.
 One whole column (145 lines), or more, \$60 per column.
 Business Notices, Eighty cents per line of space.

FOR THE GERMAN EDITION ONLY.
 Ten cents per line of space for each insertion.
 One whole column (130 lines), or more, \$10 per column.
 Business Notices, twenty cents a line.

FOR BOTH EDITIONS, ENGLISH AND GERMAN.
 Fifty-five cents per line; \$65 per column.
 Business Notices Eighty-five cents per line.

BEARDSLEY'S HAY ELEVATOR, OR HORSE-POWER FORK.

See February *Agriculturist*, page 41. These valuable implements, fully rigged, with three pulleys and rope, for \$16. Also State and County rights for sale by
 LEVI A. BEARDSLEY, Patentee,
 South Edmeston, Otsego Co., N. Y.

EVERGREENS.—JOHN W. ADAMS, Portland, Maine, continues to furnish ARBOR VITAE and other EVERGREEN Trees at low prices, properly taken up and packed. Catalogues ready.

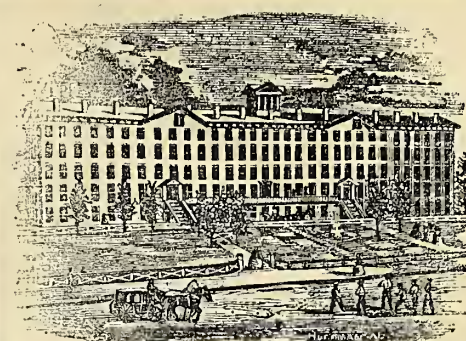
ICE TOOLS—ICE PLOWS, SAWS, HOOKS, TONGS, &c. For sale by
 R. L. ALLEN,
 189 & 191 Water-st., New-York.

The Universal Clothes Wringer, AND THE METROPOLITAN AND UNIVERSAL WRINGERS COMBINED,

Made to fit and clasp firmly all sorts of tubs or washing machines, and is warranted to work perfectly.

Prices \$6 and \$8, according to size. Also, The Metropolitan Washing Machine, the best in the world. Send for Circular. For sale wholesale and retail, by the
 METROPOLITAN WASHING MACHINE CO.,
 Middlefield, Ct. DAVID LYMAN, Treasurer.

And by
 CHARLES Y. MAPES, 128 Nassau-st.,
 R. L. ALLEN, 191 Water-st.,
 GRIFFING, BROTHER & CO., 60 Courtland-st.,
 J. JONES & CO., 31 Fulton-st.,
 BRADLEY BROTHERS, 290 Washington-st., and
 TREDWELL & PELL, 45 Fulton-st., New-York.



\$110 EDUCATION—EXCELLENCE \$110 WITH ECONOMY.

Examine the claims of the **FORT EDWARD INSTITUTE**, at Fort Edward, Washington Co., N. Y. Superior Brick Buildings, 18 Teachers, affording rare advantages in both the solid and the ornamental branches. A Graduates' Course for Ladies. Commercial or Classical Course for Gentlemen. "No Seminary has a nobler class of Students." Cost per year for board, furnished room, fuel, washing and Common English Branches, \$110. Spring Term commences March 28th. Good Students received at any time. Address as above.
 Rev. JOSEPH E. KING, Principal.

FARM PRODUCE

SOLD ON COMMISSION,

Such as Flour, Butter, Cheese, Lard, Provisions of all kinds, Grain, Eggs, Poultry, Game, &c., &c.

ISAAC EMENS, 226 FRONT-ST., NEW-YORK.
 SUCCESSOR TO THE FIRM OF HAIGHT & EMENS.
 Refers to the Editor *American Agriculturist*.
 E. R. Cooper, Cashier, Market Bank, New-York.

BUIST'S GARDEN MANUAL AND ALMANAC FOR 1861.

BUIST'S ALMANAC AND GARDEN MANUAL.
 BUIST'S GARDEN MANUAL AND ALMANAC.
 BUIST'S ALMANAC AND GARDEN MANUAL.
 CONTAINS USEFUL HORTICULTURAL INFORMATION.
 THE CULTIVATION OF VEGETABLES, FRUITS, AND FLOWERS.

LISTS OF THE MOST DESIRABLE VARIETIES.

MAILED ON THE RECEIPT OF A LETTER STAMP.

R. BUIST & SON,

SEED GROWERS AND NURSEYMEN,
 PHILADELPHIA.

To Onion Growers.

A neat pamphlet of 42 pages, containing the condensed but plain directions of *Seventeen practical Onion Growers*, residing in different parts of the country; and embracing full directions for every item of labor from selecting seed and preparing ground, to harvesting and marketing crop. Nowhere else can so full, complete, and useful information on this subject be found. Sent post-paid on receipt of 21 cents (or seven 3-cent stamps). Address

PUBLISHER OF AMERICAN AGRICULTURIST.

Bee Keeping Explained.

The best PRACTICAL work yet published. Sent for \$1. Bees for sale by the swarm, with Italian Queens, Glass Honey Boxes, &c., &c. Circulars with particulars sent to all applicants. Address, M. Quinby, St. Johnsville, N. Y.

MUNN & COMPANY,

PROPRIETORS OF THE SCIENTIFIC AMERICAN, AND AGENTS FOR PROCURING AMERICAN AND FOREIGN PATENTS.

They refer to FIFTEEN THOUSAND Inventors, who have had business done by them. Pamphlet of advice, 16 pages, sent free. Patent Laws and Regulations, 100 pages, 25 cents, by mail.

OFFICE, 37 Park Row, New-York, and Washington.

SEEDLING POTATOES.—Raise your own. Seed 30 cts. per package, post paid. P. SUTTON,
 Ransom, Luzerne Co., Pa.

FOR SALE. LARGE OR SMALL QUANTITY.

Victoria Rhubarb, \$3 per 100; \$25 per 1000.
 Allen's Hardy Raspberry, \$1 per 100; \$8 per 1000.
 Silver Maple Seedlings, 50c. per 100; \$4 per 1000.
 12 Acres Lawton or New-Rochelle Blackberry.
 2 Acres Dorchester Blackberry.
 20,000 Peach trees, choice varieties; Strawberries, Cranberries, and a good supply of other NURSERY STOCK, the best quality. SEND FOR A CATALOGUE, GRATIS.
 WILLIAM PARRY, Cinnaaminson, N. J.

Strawberries! Strawberries!

"By their fruits ye shall know them."

What Strawberry shall I plant? Why! the Wilson's Albany—Why? Because it is the most productive, the largest, and finest berry grown in fact it is the "fastest" berry. Originated at the Albany Nursery, where plants can be procured by addressing JOHN WILSON, Albany, N. Y.
 Price per 100 plants.....\$1
 do. 1000 do.....\$8
 Liberal discount to the trade.

FLOWER SEEDS. FLOWER SEEDS.

After cultivating over one thousand varieties of Flower Seeds, I have selected about one hundred kinds of the most hardy, showy, and attractive, of which I will furnish, neatly put up, any 33 kinds on the list for \$1, and send by mail with postage prepaid. Send for a Catalogue.
 G. R. GARRETSON, Flushing, N. Y.

Garden Seeds. Garden Seeds.

The subscriber is extensively engaged in raising all kinds of Garden Seeds, having nearly 100 acres under cultivation for that purpose. They can be furnished in any quantity, and of the choicest quality. A new retail Catalogue at greatly reduced prices, and containing directions for cultivation, is just published, and will be sent to all applicants.
 G. R. GARRETSON, Flushing, N. Y.

Seeds! Seeds! Seeds!**Garden, Vegetable, Grass and Flower Seeds****OF EVERY DESIRABLE VARIETY.**

Descriptive priced Catalogues No. 1 and No. 2 for private, or family use; and No. 8 Trade list, forwarded on application.
ALFRED BRIDGEMAN,
No. 876 Broadway, New-York.

Bloomington Nursery, Illinois.

At Junction Ill. Central [Dubuque and Cairo] and St. Louis, Alton and Chicago Railroads. Established 1852. 120 acres Fruit, Ornamental, and Nursery Stock, a very general and reliable assortment, cheap for Cash. Particular attention invited to the splendid stock and assortment of *One Year Apple Grafts*, mostly 2 to 3 feet, 1000, \$25. Also *Root Grafts*, 10,000 \$50, for our ordinary and we may add, unusually successful quality (from which above named fine 1 year olds.) 1 \$15. Quince, Pear, Plum, Mahaleb, and Rose Stocks. *Apple Seeds*, choice *Currants and Grapes*, many sorts, *Mulberry*, Downing's Everbearing, \$16 per doz. *Gooseberry*, *Blackberry*, *Raspberry*, 1000 \$15 to \$10. *Strawberry*, including Wilson's and both McAvoy's, 1000 \$5. *Asparagus*, strong, 3 year, 1000 \$5. *Rhubarb*, including Linneus and Victoria, *Gives*, 1000 \$30 to \$60. *Apple Stocks*, good 2d size for budding, 10,000 \$15. *Shade and Weeping Trees, Roses, Shrubs, and Bulbs*, a superb stock. *Evergreens*, Nursery grown, several sorts, 1000 \$10. Packing carefully done. See Catalogues. Address, Bloomington, Ill. F. K. PHENIX.

**EVERGREEN NURSERY.**

Woodlawn, New-Jersey.

DAVID J. GRISCOM, Proprietor.
The attention of persons stocking or replenishing nurseries, or having extensive grounds to improve, is particularly invited.

FOR SALE. — LARGE STANDARD PEAR
Trees of the choicest varieties; also, Plum, Cherry, and Apple Trees, and many kinds of Shrubby, &c., &c.; at our Nurseries in Tioga, Tioga Co., Pennsylvania.
Tioga, Sept. 26, 1860. WICKHAM & BLOODGOOD.

To Nurserymen, etc.

The Nursery Trade List for 1860-61 of
PETER LAWSON & SON,
Edinburgh and London, is now ready, and may be had on application to
CRAIG & NICOL,
No. 6 Bowling Green, New-York.

CHOICE BLACKBERRY PLANTS.—I have for sale plants of the following choice varieties of Blackberry, "Orange's Crystal" (white), "Albion" (pink), "Dr. Warden" (flesh color), and Black Prolifer. I have selected them from several hundred varieties, for their superior size, quality, and productiveness. Price of plants \$5 per dozen. Address
JOHN B. ORANGE, Albion, Ill.

Fruit Seeds.**Fruit Seeds.**

Apple, Pear, Quince, Currant, Gooseberry, Raspberry, and Strawberry seeds.
Peach, Cherry, Nectarine, and Apricot Pits. A full assortment of Garden, Field, and Flower Seeds.
Price list sent on application.
R. L. ALLEN, 189 & 191 Water-st., New-York.

Seeds.

HONEY LOCUST for Hedges, \$15 per bushel.
FRUIT and TREE SEEDS, 100 kinds—See Catalogue.
THOS. MEEHAN, Germantown, Pa.

CARROT, BEET, AND TURNIP SEEDS, of the various kinds, of extra quality, for sale by J. E. MACOMBER, Wholesale Seed Grower, Portsmouth, R. I.

GARDEN SEEDS.—THE UTMOST CARE IS taken to have my Seeds pure, reliable, and true to their kind—most of which are grown expressly for my sales. Orders from dealers for Seeds in papers or in bulk, will be furnished on as good terms, as by any other reliable house in the country. Wholesale price lists will be sent by mail on application. R. L. ALLEN, 189 & 191 Water-st., New-York.

Genuine Mason Cabbage,

Raised wholly from the center shoot, from plants obtained from the brother of the original introducer. A variety remarkable for its reliability for heading and the exceeding hardness of the head. Let those who have experienced in raising Cabbages, and those in the extreme North and South, who have thus far failed, try this; it *insists* on heading under almost any culture, oftentimes every plant on an acre setting a marketable head. One pound of seed, with directions for cultivation, post-paid, \$4.00; quarter lb., \$1.00; one ounce, 33 cents. Seed warranted to reach purchasers.

STONE MASON CABBAGE.

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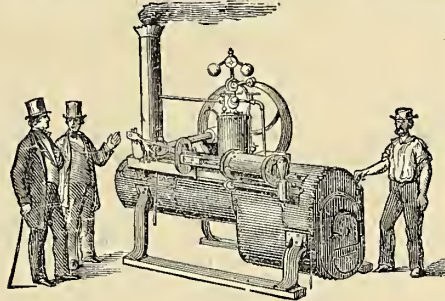
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Contents for February, 1861.

Agricultural Societies, etc.—Special Notice to.....	41
Apples Good for Cows.....	42
Apples—Which are Best? Important Request.....	49
Bees—Apiary in February.....	35
Berries—Yield per Acre.....	47
Birds—Familiar, and Useful Notes—The Barn Owl, III.....	44
Boys' and Girls' Columns. Uncle John's Study, No. III.—Editor with his Young Readers—Smart Boys—"Bite bigger, Billy"—Problems—Our New Pet—How Tom was Caught—John Brunt and his Friend "Sharpy".....	4 Illustrations. 55-56
Bridges—Sleighs on.....	35
Buckwheat Cakes.....	54
Buildings—Decay of.....	35
CALENDAR OF OPERATIONS FOR THE MONTH.....	34
California—Fruit and Horticulture in the Mountains.....	51
Carrots—Value of—Answer to Query in Jan. No.....	43
Cattle—Are American Improving?.....	41
Cattle Disease—Petition to Congress.....	43
Cattle—Good Stock Cheapest.....	42
Children—How to Keep Healthy.....	53
Children's Sleep—Practical Suggestions.....	53
Cities of U. S.—Population and Rank.....	40
Coffee Culture—Notes on.....	2 Illustrations. 52
Cooking Hints—Boiling, Broiling, Roasting and Frying.....	54
Corn in Connecticut—Good—The "Argument Acre".....	36
Corn—Trying Seed.....	35
Cow—Model, Portrait of.....	42
Cranberries—Highland.....	50
Culture—What Kind is best?—Stick a Pin Here.....	35
Dairy Farming on Long Island.....	38
Dogged Advertisement.....	38
Door Catch—Self-Fastening.....	41
Draining—Why is it Beneficial.....	36
Farm Work in February.....	34
February—Suggestions—Proper Treatment of Ani- mals.....	Illustrated. 33
Flower Garden and Lawn in February.....	34
Flowers—Tritoma Uvula—Experience with.....	48
Garden—Kitchen and Fruit in February.....	34
Grape-Growing on Kelley's Island.....	47
Grapes—Harvard.....	49
Grapes—Notes on Newer.....	49
Grapes—Ripening Isabella.....	49
Grass Culture—Experiment in.....	47
Green and Hot Houses in February.....	35
Green Houses for Invalids.....	47
Hedges—Privet not Hardy.....	50
Hedges—Shelter for Fruit Garden.....	50
Horses—Stumbling—To Cure.....	37
Horses—Two Hours with Mr. Rarey.....	Illustrated. 36
Humbugs—What they are Doing, II.—Advertised "Doc- tors," and "Medicines"—Another Seed Swindle.....	38
Ik Marvel—Truthful Hints by.....	43
Illinois—Notes from.....	43
Insects on Evergreens.....	51
Japan—Horticultural Novelties from.....	51
Japanese Wheat a Humbug.....	38
Lantern Blinks—XXV—Diogenes Redivivus Visits a Woman of Hesperia.....	45
Liming Land—Experience in.....	40
Manure—Bone, Permanence of.....	39
Manure—Night Soil—How to Compost.....	46
Manure—Pulverizing, Benefits of.....	46
Market Review—Weather Notes, etc.....	59
Mulching—Benefits of.....	50
Mushrooms—Poisonous.....	47
Ohio Crops in 1859.....	40
Orchard and Nursery in February.....	34
Oregon Fruit—Large.....	51
Pen—Use the.....	43
Pitchfork—Horse Power—Beardsley's.....	2 Illustrations. 41
Plowing Deep—Testimony of the Corn Crib.....	47
Potato Man—How Mr. Jones Tilled his Land, II.—In- structive Experiments.....	39
Potatoes—Experience with.....	43
Potatoes—How to Cook.....	54
Rats—Stop them.....	44
Silk Worm—New—Substitute for Cotton.....	40
Starch—Charcoal in—Chemistry.....	53
Thistles—How Disseminated—Important Suggestion.....	46
Tomato—New Upright.....	50
Trees—Stuartia Petagynia.....	2 Illustrations. 48
Vegetable Curiosities.....	49
Vines—Ornamental.....	51
Wheat—Mulching with Buckwheat.....	35

Index to Basket Items.

Agricultural Society—N. Y. State—Meeting of.....	58
Beer Seed—California.....	58
Bulls in Pots.....	57
Cattle's Horns—Preventing their Growth.....	58
Cattle—Keeping Clean.....	58
Chicken Question—Novel.....	58
Cold—To Avoid Taking.....	58
Corn Crib—Stoves for.....	57
Cotton—Peruvian.....	57
Cows—Abortion in.....	57
Currant—Value of Black.....	58
Fruit Stealers to be Felons.....	57
Grafting Pears on the Butternut.....	57
Grape Grower's Meeting in Connecticut.....	57
Household Department—Objection Answered.....	58
Idea—Unwise.....	57
Illinois as a Farming State.....	58
Insects—Grub Worms—Destroying.....	57
Insects on Trees—To Repel Earth Worms.....	58
Letters—Acknowledgment of.....	57
Lime Question.....	57
Mapes—A Great Mistake.....	57
Manure—Mixing with Loam.....	57
Meat—Keeping under Ground.....	58
Mistake of Binders.....	58
Moles—Poisoning.....	58
Nails—Preventing Rusting.....	58
Nursery—Starting a.....	57
Oats on a Wheat Head.....	58
Onions Lost in Storing.....	57
Peas—How to Start Early.....	57
Plants—Climbing.....	57
Potatoes—Climbing.....	58

Potatoes, Raised under Straw.....	58
Raspberries—Allen.....	58
Raspberries—Protecting.....	57
Rats and Mice Poisoning.....	57
Roses—Climbing.....	57
Sheep and Dogs in Massachusetts.....	57
Strawberries Mulching.....	58
Strawberries—Sex of.....	57
Trees—Locust for Timber.....	58
Trees—Remedy for Barrenness.....	58
Wheat—Wild Goose.....	57
Wheat in Minnesota—New England.....	58
Worms—Earth, Troublesome.....	58
Yale Agricultural Lectures Postponed.....	57

Publisher's Notices.

This Number Worth a Dollar.

We have just finished reading the proof sheets, and candidly think this single paper worth more than a Dollar to every one having a rod of ground to cultivate. We do not believe any person who carefully reads even the first eight pages will take a dollar for the hints, suggestions, and information received. Were not all the articles good, we would specify "Stick a pin here; Two hours with Mr. Rarey; Mr. Jones' Experience; Liming Land; Medical Advertisements; the Household Department," etc. Any person who can read this number without gaining valuable information is more fortunate than the writer, for he has learned much from the thoughts and investigations of several associates and contributors who have helped supply the material for these pages. But this is a business paragraph, and to make it practical, we ask those who do value this number to mention the fact to a neighbor or two.

We have stereotype plates to print plenty of copies of this and the preceding number for all new subscribers—and ten more first rate numbers are yet to come.

All the Year!!

The general premiums, offered on page 60, are good for all the year; that is: all subscribers obtained by any person for volume 20 complete, may be counted in a premium list—no matter when the names are received. Of course it is preferable to have the lists made up as soon as may be. In the leisure of the Winter season, people have more time to read, and we desire to have the *Agriculturist* read as well as subscribed for.

Yes!

Many write thus: "I am raising a club for a Melodeon, or Sewing Machine, or other premium, and shall get it. Can I not send on the pay for the number of subscribers required, and receive my premium, and afterward forward the names as I get them?" We answer, yes, if the subscriptions all begin with the volume; though we would prefer to have the names as early as possible that the subscribers may begin to receive their papers. In some cases, persons have subscribed at once for the whole number of copies, having those not subscribed for by others, forwarded to themselves, to be given out as subscribers were obtained. We prefer all names to come to our mail books, that the papers may be separately directed to them, as is always done, even where they go in club packages to the same office.

There is Time Enough Yet.

Premium Clubs can still be filled up, and new ones be commenced and completed. Our premium articles are valuable, and worth working for. Hundreds of them have already gone out, but the supply of most of them is inexhaustible.

A Sewing Machine at an Agricultural Society.

Reference has already been made to the fact, that the Ozaukee County Agricultural Society, Wis., subscribed for 95 copies of the *Agriculturist* at \$1 each, to give out as premiums instead of money, and the Society itself took the premium Sewing Machine, to be exhibited at the fair, and then sold at auction for the benefit of the funds of the Society. The Secretary, Mr. J. Tomlinson, thus reports: "The Sewing Machine affair, with the subscription for 95 copies, was a complete success. The Machine arrived in perfect order—was sold at auction for \$40.50 which is so much extra money in the treasury; and I have yet to hear of any one of those receiving the *Agriculturist* as a premium, who would exchange it for a money premium. So well is the paper liked that at one of our towns a large list, now nearly full, is being got up to obtain a premium Melodeon for a Church."

Send for the Seeds Now.

We desire all present subscribers wishing seeds, and not having yet sent in their envelopes, to forward them now. Our list is as full as we can make it at present. Several desirable varieties, which we sent to Europe for, can not be obtained in quantity this year, and so we can not add them to the present list, as we have been waiting and hoping to do. The bad season for growing seeds in Europe has caused us great trouble and delay. The asks of seeds that should have been here early in December, and would have been in ordinary years, are not all here yet (Jan. 18.), but they are daily looked for, and will be here before the close of January. The moment they arrive they will be put up as rapidly as possible. We are now putting up those grown in this country, and without doubt the assortment will be completed, so that the distribution can begin early in February. It will take a few weeks to get up with the applications, as we prefer to do the work with our old experienced force, instead of putting on many new hands. The mail parcels are put up and distributed in the country. An assortment for callers and for express parcels will be ready at our City Office about the close of February. Ample notice of the time of commencing the distribution, and any other items will be announced in our next number.

Each one Select his Own Seeds.

Hundreds send in stamped envelopes, and ask us to select seeds for them. We can not. Our list embraces many varieties, and it is impossible to even guess which will be most desirable for individual subscribers—whether field, garden, or flower seeds—or what variety. We should be quite likely, in many cases, to send those least desired, and besides, where so many are to be supplied, we can not devote the time or thought needed to select for a particular locality. The seed distribution, at best, involves immense labor, care, and expense.—Some have asked for seeds without making any selection, or providing stamps, or directing how or where to send them. They must not complain at receiving no seeds.

Dear Subscription Money.

In a few cases we have received by Express, from the distant West, \$8 for 10 subscribers, upon which the Express company has charged us 75 cts., to \$1, and the brokers 10 to 15 per cent on the money inclosed, leaving only about \$6 for 10 subscribers, including expense for seeds and the premiums, when claimed. This has doubtless occurred through oversight on the part of the sender. If small sums are ever sent by express, at our expense, please send gold; or money nearly current here, and stipulate for its carriage at a low price—marking the agreed price plainly on the parcel, where we can see it on delivery. There is seldom a necessity for resorting to this mode of carriage. Small sums come safely by mail, and larger sums are best sent in drafts on New-York Banks. At least half of the cost of drafts may be deducted.

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD, care of DOMESTIC ANIMALS, &c., &c., and to HOUSEHOLD LABORS. It has also an interesting and instructive department for CHILDREN and YOUTH.

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The Editors and Contributors are all PRACTICAL WORKING MEN.

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All business and other communications should be addressed to the Editor and Proprietor.

ORANGE JUDD, 41 Park-Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.

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American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



March.

"Be patient swains; these cruel-seeming winds
Blow not in vain. Far hence they keep repressed
Those deep'ning clouds on clouds surcharged with rain,
That, o'er the vast Atlantic hither borne
In endless train, would quench the Summer-blaze,
And, cheerless, drown the crude, unripened year.
The North-east spends his rage; he now shut up
Within his iron cave, the effusive South
Warms the wide air, and o'er the void of heaven
Breathes the big clouds with vernal showers distent."
THOMSON.

March is a conflict between the winds of the North and the South, and in this respect the climate of America at this season bears a close resemblance to that of Britain. The same Gulf Stream that flows along our coast, producing such marked changes in our temperature, sweeps the Western shores of Ireland and England, carrying the heat of tropical seas, and the floating wrecks of tropical lands, thousands of miles toward the poles. The Laplander cooks his reindeer steak, and boils his tea kettle, if he indulges in that luxury, with the palms that were floated out into the Caribbean sea. As we are nearer to the tropics, and the Gulf Stream has a higher temperature, and as our northerly winds come over snow clad lands, we have greater

alternations of heat and cold in Spring, than are known in England. These sudden changes are the characteristic features of this month. To-day we have the wind from beyond the great lakes, and the thermometer goes down to the neighborhood of zero. To-morrow it comes from the warm South, bearing rain laden clouds, and the balmy air of the Mexican Gulf. Now we have fierce snow storms and pinching frosts, and it would seem that winter had resumed his iron sway. Again the snows dissolve, the banks disappear from under the walls, and in sheltered nooks the grass lifts its green spires above the withered vegetation of the old year.

Nothing can be more charming than these first indications of Spring, after the long and dreary Winter. The notes of the blue bird are heard in the orchard, and he is seen peeping into the knot hole, that he occupied in the Summer. A stray robin is seen hopping on the meadow in search of grubs. What lands have they visited while their old haunts have been wrapped in snow? The wild geese fly overhead in long wedge shaped flocks, seeking their breeding places on the coast of Labrador, and further north. This is a sign, universally accepted, that winter is broken. The unerring instinct of the bird does not push northward, until certain of finding a congenial clime for laying its eggs and for brooding. The ducks are disappearing from the bays and inlets along the shore, and seeking by easy flight, the same northern retreats. They know their appointed season.

And among domestic animals there are cheering indications of Spring. It will soon be yeaning time with the flocks and herds, and the boys and girls will be rejoicing over the calves and lambs, that so suddenly and mysteriously make their appearance in the yard. Though all is dead yet in field and forest, there is a stir of preparation that heralds the coming Spring. The buds swell a little in the bright warm days. The water runs merrily from the dripping eaves and spouts, and the uncovered earth drinks in the flood, and the cheering rays of the sun. Could these sunny days last, the Spring would be upon us at once. But there is the fatal weakness of this fickle month. She does nothing persistently, and often closes in snow banks and frost, apparently as dead as December.

And March, in this respect, is just like a great many men and women. They lack pluck and nerve to put an enterprise straight through. Here is a man that starts vigorously in the business of farming. He purchases a homestead and begins to improve and cultivate. He repairs the house and out-buildings, builds new walls, gets the best tools, plows deep, and manures high, and shows that he has capacity enough to get rich by the cultivation of the soil. You call at his house the third year, and find that he has sold out every thing at a sacrifice, and gone to California. Had he kept on in his

work, he would have made an unfailing placer of his farm. But his enterprize was only a March wind from the South.

There is another who goes in for improved stock. He purchases judiciously, and raises fine Morgan colts, superb Devons, and Suffolk pigs, that live upon almost nothing and grow fat. He takes pride in the sleek well fed animals that fill his stalls and sties, and makes a sensation at the fairs with the multitude of prizes that he carries off. He becomes known to the public as a stock breeder, and has orders for all the improved stock he can raise. He finds the business fairly remunerative, but in an evil hour is tempted to go into some new business that promises larger gains. A neighbor has become suddenly rich by speculation in city lots, or railroad stocks. He is envious of his success, invests largely, and is ruined. Too late he discovers that a man's experience in farming is of little avail in other callings, that a good judge of cattle may be a poor judge of men, and that a man great upon the farm, may be very small elsewhere.

Another has a right theory of farming, but is fickle in reducing his principles to practice. He sees clearly enough that draining pays in the long run; that deeper plowing is needed; and that more manure is the great want of his soil. If he drains an acre, he is alarmed by the fifty dollars that have slipped out of his pocket, perhaps never to return. If he subsoils, he counts the cost of the extra team and labor, and mourns over ten dollars sunk on an acre in getting it ready for a crop. If he gets his barn cellar in readiness, he shrinks back from the expense of digging and drawing muck enough to keep his manure factory running through the year. A hundred dollars spent on the raw material of manure, seems a great draw back upon his profits. True, the compost made last year wrought wonders, and gave him such crops as he never raised upon the old system, but then it costs so much to furnish the muck. He is troubled with a longing for creative power to make something out of nothing, and he makes small drafts on the muck mine.

In no business do men need more to follow a steady, persistent course, than in farming. There is no chance for sudden wealth, no brilliant speculations that will raise a man from poverty to affluence in a month, or in a year. As it is only the steady advance of the sun and the prevailing winds from the South, that bring the Summer and mature the harvest, so it is only the steady purpose and the persistent effort, that make the farmer successful. The reward of the mechanic is generally immediate and final. He receives his dollar for shoeing a horse, and that closes the account. But the reward of the farmer's toil stretches over many years, and he needs patience to receive the whole of it. The tile that he buries in the earth will carry water, and improve every crop extending over fifty years, or more. The money invested in the

compost heap does not all return to him the first or the second year. The improved stock that he brings upon the farm will make all his care of stock more profitable, as long as he lives. The orchard that he plants, will yield increasing products for a score of years, and children's children, probably, will pluck fruit from its branches. And the more wise and skillful the husbandry, the greater is the need of patience and persistent effort to reap its advantages. Such husbandry, with a contented mind, is great gain. The foundations for success are laid broad and deep, and the superstructure goes up slowly but surely, for a permanent edifice. While fortunes suddenly acquired, are blown to the winds, that of the shrewd and patient husbandman lasts for his life time, and is handed down, a precious inheritance for his children.

Calendar of Operations for March, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 33° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.]

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The indications of approaching Spring, will soon arouse animate and inanimate nature to new life; cattle and sheep will grow restless in the yards, the grass will break from its long confinement, and the buds swell under the genial sunshine. The cultivator too will be in haste to start the plow and forward the year's labors. Indiscreet haste may injure the whole season's growth. Heavy land plowed while too wet, will remain lumpy through the Summer; plants checked in their first growth, recover with difficulty. Have all ready, and wait until the soil is in good condition, and Spring fairly open.

Buildings—Make all secure against the heavy winds of this month. See that fastenings of doors are in good repair. Complete necessary out-buildings before the busy season comes on. If any need painting let it be done as early as possible.

Cattle crave green food as the weather grows warmer; give them mangel wurzels, carrots, or turnips. Keep watch of cows about to calve, to render assistance if needed; give them separate and roomy stalls. Prepare cattle for spring work by generous feed. If long unused, they should be brought to their work gradually.

Cellars—Remove banking and admit light and air as soon as the season permits. Clear out all decayed vegetables and refuse. Save the brine from meat barrels for dressing the asparagus bed. Whitewash the whole at an early day.

Clover—Sow, *m, l*, in the morning, when the ground is well opened by frost; or upon a light snow—the latter is preferred by many, as enabling the east to be made more evenly.

Drainage—Improve the first opportunity for making tile or stone drains. Clear out open ditches, and use the muck for composting. See page 70.

Experiments—Prepare for conducting practical experiments in some branch of cultivation, and record a full account with the results.

Fences—Repair as soon as the weather permits.

Grain—Examine that stored in bins. Keep from dampness, mold, insects, and rats and mice.

Hired Men—Where several are employed, give each his own special work, as far as may be. Every team should have its own driver, and the most skillful be employed in the several departments.

Hogs—Give a little charcoal and sulphur with

their food occasionally. Allow cooked roots with meal, particularly to breeding sows.

Horses—Give additional care, as the working season comes on. Guard against galls under the harness; clean well when returning from work. Blanket them when standing to rest in the wind while sweating from exertion.

Ice Houses—Complete filling, *ff*, if not done, and examine drainage and ventilation.

Manure—Rednee the compost heaps to as fine a condition as possible by frequently forking over. Cart out heaps to the fields, and cover with muck, plaster, or soil, to prevent escape of ammonia. Top-dress meadows with fine compost. Break up lumps left by the cattle last Fall. Remove offensive deposits from privies, sink drains, hen roosts, etc., before warm weather. See page 73.

Meadows—Remove bushes, fallen branches under trees, hedge rows about fences, etc. It is better to draw out stones in the Fall, than to trample in Spring. Allow no stock on mowing grounds.

Plowing—Wait until the ground will be left mellow. Go an inch deeper at each plowing, until there is a foot of good soil. Subsoil where practicable.

Potatoes—For early home use, start a few in a hot-bed about the middle of the month, to be transplanted as soon as weather permits. Or, bring them into a warm room, and allow the sprouts to get a good start. Secure plenty of choice seed.

Poultry are laying plentifully now, if properly kept through Winter. Supply with plenty of grain, chopped meat, boiled potatoes, cabbages, etc.

Seed—Procure improved varieties, from reliable sources, but beware of humbugging circulars promising wonderful returns from unknown plants. Test samples before purchasing largely.

Sheep—Follow directions given last month.

Sugar Maples—Tap as soon as sap will flow. Boil as soon as possible; use shallow evaporating pans.

Tools, harness, wagons, etc., should all be in perfect repair before the working season commences.

Wood—Complete the year's supply, if not done.

Orchard and Nursery.

The earlier operations can commence in this department, the better for the trees. Thousands are lost yearly by too late transplanting. As soon as the frost leaves the ground, replace condemned trees, and plant new orchards where needed. Fruit growing as a business is yet in its infancy in this country, and thousands of acres, now yielding a poor return of grain or grass, may be profitably devoted to raising apples, pears, and other tree fruits for market. Set out a few more trees this month.

Apple Trees—Scrape off all moss and bark lice, and wash with lye. Leave pruning of large limbs until Summer, but take off suckers. Replace poor sorts by grafting with choice varieties.

Cherries, Peaches, Plums, etc.—Let the home-stand be well supplied; good fruit makes any place attractive.

Cions—Cut, *ff*, if not already done. Keep covered with sand until wanted for use.

Draining greatly improves land for fruit growing.

Evergreen Trees—Leave transplanting until May.

Grafting—Commence, *ll*, with trees that start earliest. Leave apples and pears until next month.

Insects—The parent of the canker worm commences to ascend the trunks of trees during warm days this month. Many may be destroyed by surrounding the trunks with paper covered with tar mixed with oil enough to keep it soft. Remove scale from the trunks and main limbs, and look for caterpillar eggs near the ends of twigs.

Manures—Lime and ashes worked into the surface at some distance from the trunks, are beneficial; also top-dressing with compost.

Pear Trees—Standards are valuable for both fruit and shade. Let there be plenty of choice sorts around the dwelling. A few dwarfs may occupy a place in the garden. Procure seedling stocks early.

Pruning—Read article on page 82.

Seeds of fruit or forest trees kept over Winter, should be planted, *ff, m*. Sow evergreen seeds, *m, l*.

Stocks budded last year—Remove the natural growth two or three inches above the bud.

Transplanting done carelessly, causes the loss of thousands of trees annually. Preserve the roots uninjured as much as possible; pare smoothly the ends of those broken. Reset them as soon as may be after taking up; carefully straighten out the small roots; set at the depth of natural growth, in soil enriched with compost of leaves or muck, ashes, and a small part stable manure.

Kitchen and Fruit Garden.

Except in favored locations, few seeds can be profitably planted out of doors this month, unless the season prove quite early, of which there are some indications. Well drained soils may be worked several days earlier than others. It is well to take advantage of the first practicable opportunity to plant a few early vegetables; as, in case of failure, there is only the loss of a small quantity of seed, and if successful, the gardener gains time. A hot-bed prevents failure from a backward season.

Artichokes—Fork in a dressing of manure, being careful not to injure the crowns. Salt and wood ashes are beneficial. Make new beds, *m, ll*.

Asparagus—As soon as danger from frost is past, fork in the manure spread over it last fall, and give a liberal dressing of salt. Make new beds, *ll*.

Blackberries—Read article on page 83.

Cabbage and Cauliflower—Sow, *ll*, in hot-beds, or boxes. Give constant heat and little air until well started, then allow gradual exposure, to harden for transplanting.

Cold Frames—Prepare the plants for removal by continued exposure as the weather grows warmer, but protect from frost. Sow cabbage, lettuce, radishes, etc., to succeed plants about to be removed.

Currants and Gooseberries—Prune and make cuttings, *ff*, if not already done. Put in cuttings and set new plants, *ll*.

Cucumbers—Start a few extra early in hot-beds.

Early Vegetables—Read "Hints on Starting Garden Plants early in Spring," page 79.

Drainage—Try the experiment upon the garden, success there, will warrant extending it to the farm.

Fruit Trees—Plant a few dwarfs around the borders, *ll*, if there be sufficient room.

Grapes—If any must be pruned at this unseasonable period, to prevent bleeding, try the plan recommended on page 84. Uncover protected vines, and trellis or stake them up when mild weather is established. Fork in a good dressing of leaf mold, or chip dirt and bone dust.

Herbs—Divide and reset roots; sow on borders, *ll*.

Hops—Provide poles, *ff, m*. Plant roots, *ll*.

Horse-radish—Dig roots for family use, and for marketing, *ff*. Divide and replant, *m, l*.

Hot-Beds—Make, *m, l*. One of moderate size will supply several families with early plants for setting out; an arrangement may be made among neighbors to share the small expense. As the season advances, admit air to harden tender growth.

Lettuce—Sow, *m, ll*, in hot-beds, and cold frames, also in open ground on a warm border.

Manure highly. Use finely divided manures which may be thoroughly mixed with the soil, in preference to coarse material. Bone sawings, muck composted with stable manure and lime, night soil, and home-made guano from the poultry house, are all valuable. Prepare a vat or hoghead sunk in the ground to receive the sink slops from the house, for use in the garden this season.

Onions—For home use sow, *ll*. For general crop, April is more safe, unless in a very forward season.

Parsneps—Dig as wanted for home use or market. Leave the roots for raising seed.

Peas—Sow on warm borders, *ll*. Place the seed for about a minute in water raised to 190°, to destroy the weevil. Prepare brush, *ff, m*.

Peppers—Sow in hot-beds, *ll*.

Plow, subsoil, and trench when the season permits.
 Potatoes—Follow directions given under "Farm."
 Radishes—Sow at intervals in hot-beds, *ll*.
 Raspberries—Remove covering from buried canes, and stake up, *ll*, if sufficiently warm. Fork in a dressing of good compost about roots. See page 83.
 Rhubarb—Read article on page 83, this No.
 Seeds—Secure a full supply of improved varieties from reliable sources. Test samples before purchasing largely. Most kinds are forwarded by soaking before sowing.
 Spinach—Uncover protected beds; sow seed, *ll*.
 Strawberries—Rake off Winter covering, *ll*. Give top-dressing of ashes, and fine compost, hoeing it in.
 Sweet Potatoes—Plant in hot-beds, *ll*, for sets.
 Tools—Repair old and procure new and improved.
 Tomatoes—Sow in hot-beds or in pots in the house, *ll*.
 Trellises, Arbors—Put in repair, and erect new.
 Turnips—Sow, *ll*, in hot-beds, for early use.
 Winter Cherries (*Physalis*)—Sow, in hot-beds, *ll*.

Flower Garden and Lawn.

That "haste makes waste" has been the bitter experience of many an ambitious gardener. A few warm bright days in March, should not tempt one to strip trees and shrubs of their Winter protection, to expose the frames, bring out house plants, or put in seeds. A sudden change in the weather, with a cutting north west wind, ending in a snow storm, may soon show the error. Better wait until the ground is settled warm, before exposing tender plants or sowing seed. There is work which may safely be done wherever frost is out of the ground. Many of the perennial flowering plants may be divided and reset, by which an earlier and more perfect bloom will be obtained. Among these are the peony, dieentra, chrysanthemum, sweet william, holyhock, bee-larkspur, tall phlox, etc.

Flowering shrubs, especially the early blooming sorts, should also be transplanted as soon as the severity of Winter is past. Neither plant, tree, nor shrub are entirely safe when set out just previous to severe freezing weather. The disturbance of their rootlets, and the more open soil about a newly planted tree, render it susceptible to injury from hard freezing.

Cuttings of shrubs and vines should be taken off early in the month before the buds swell. Keep in boxes of earth or sand in the cellar until planting.

Bulbs which had a coating of manure, leaves, or straw given them for a Winter protection, may be partially or wholly uncovered, toward the latter part of the month, in this and Southern latitudes.

Pruning of roses, and other flowering shrubs, and climbing plants should be completed, *ff*. Each plant should be cut back with reference to its flowering habit. By strongly heading back those shrubs which only yield flowers upon the terminal branches, as the magnolia, spiraea, etc., the bloom is nearly destroyed. Roses, especially remontants, may be cut back freely, and a finer Autumn bloom is the result.

Box Edgings are prone to thicken up and become unsightly, unless renewed, or set over every few years. This transplanting may be done as soon as frost is out, and the box will look better for the early change. In resetting, clip both root and top.

Grass borders and turfing generally should be arranged the latter part of the month, if the weather permit. Beat or trample the turf down firmly, and sift fine earth into the crevices. Grass edging along the walks or flower borders may also be trimmed with a sharp spade, or better still, an edging knife.

The present is a favorable season to collect an abundance of manure, and to apply it to such places as do not admit of spading. A fine coat spread over the lawn will soon be leached by the rains, which will carry its valuable properties to the roots of the grass. A good dressing may also be given to the shrubbery and trees.

Hot-Beds should be made about the middle of the month, for starting cuttings, and for sowing seeds

for an early bloom. The gardener fluds a hot-bed almost indispensable to propagate much from cuttings. They need a bottom heat, and the protection of a glass frame, with just sufficient moisture.

Green and Hot-Houses.

The forcing houses, conservatories and other receptacles for Winter plants should now be very attractive, although a few of the more showy plants have completed their blooming period. Everything should be kept neat, and no rubbish, plant trimmings, dead leaves, moss covered pots or boxes left upon the floor or shelves, or dust suffered to collect upon the leaves. The rooms should be aired frequently when the weather is suitable, avoiding a chilling draft directly upon the plants.

Heat must be regulated, according to the object in view. If the house is merely a receptacle of plants designed to be kept from the frost, and which are to bloom in the open borders, then a moderate fire heat, with the thermometer from 40° to 45°, is sufficient. With a collection intended for present flowering, or for inducing a rapid growth to use when the out-door planting season arrives, a Summer temperature of 65° to 75° is needed, and for orchids and other tropical plants, as also for propagating purposes, the houses or rooms may safely have a temperature of 90°. Whatever condition be aimed at, it is always better to increase the heat in sunshine, and let it decline a little at night.

Acacias, Heaths, Azaleas, Epacris, etc., require little water, and shade from the direct rays of the sun.

Annuals may now be sown in pots and boxes for decorating the open borders at planting time.

Bedding plants started last month, should be pushed forward and prepared for out-door planting in April and May. If more are wanted, insert cuttings or make layers at once.

Bulbs—Keep up a successive bloom by bringing forward from the cooler apartments every two weeks. Change the water in hyacinth glasses each week.

Camellias—Watch carefully for red spider, and wash the foliage of affected plants, syringing often. Give liquid manure to plants inclined to lag, and prune to a good form.

Chrysanthemums and Fuchsias may now be propagated from cuttings, and may also many other half woody and shrubby plants.

Fuchsias—Increase the stock by cuttings from new wood of old plants. Repot any needing it, and cut back to a compact head.

Geraniums, Chinese primroses, Cinerarias, etc.—Kept near the light; turn them frequently.

Grapes—Be careful not to rub off the first buds. Syringe moderately, and protect borders well.

Insects—Washing the foliage in warm, or even hot water, will frequently dislodge or destroy them, but where it fails, tobacco fumes must be resorted to.

Orchard Houses—The fruit trees now require frequent waterings, with a moist atmosphere. Give liquid manure in moderate quantities, and turn the tubs or pots frequently.

Pansies—Set in an airy place, with a moderate heat.

Parlor Plants require even more care than those of the Hot-House, especially in point of neatness. The furnace or stove will need attention at night, especially during severe weather, or the plants will be chilled. They will also require frequent turning, especially if growing near the window, to keep them in an erect position. No weeds or moss should ever be permitted upon the pots or the earth in them. See that the drainage is good and only enough water given to keep the plants in a healthy state—the surface soil may have a dry appearance when there is sufficient moisture at the root.

Roses—Established cuttings and roots for early out-door blooming, should now have larger pots.

Syringe the walls and foliage of plants, and wet the floors to induce a moist atmosphere from evaporation. It will also tend to keep insects in check.

Water is required in proportion to the growth of plants. As most plants are now pushing out vigorously, liberal sprinklings should be given; make sure of good drainage. Let the water be taken from a cistern or tank in the house; it should be of the same temperature as the atmosphere.

Apiary in March.

BY M. QUINBY.

The bees can fly out, and collect pollen in some places, during many days this month. After one or two favorable days, examine the condition of each stock, on some clear cool morning. Several important points should be ascertained *now*. You want to know the strength of the colony, whether they have a queen or not, whether they have sufficient stores to last through the Spring, and if the combs are in good condition.

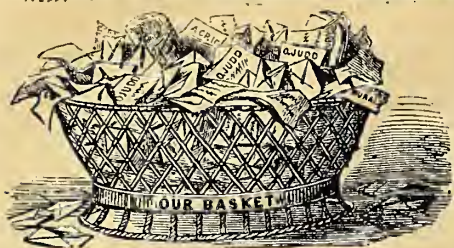
The common hive is readily examined by turning it over. It can often be done with care, without arousing the bees; they may be quieted with tobacco smoke if necessary. Let the sun shine directly between the combs. The cluster of bees in the strongest colonies will extend through nearly all the combs. When there are bees between only two or three combs, the colony is weak, and needs much care to save it from robbers, especially in large apiaries. Close the entrance, allowing room for only one bee to pass at a time. It is quite common for weak colonies to be short of honey. The inexperienced ought to avoid feeding unnecessarily; it induces robbing, and a greater consumption of honey. Ascertain, if possible, whether there be any store on hand; while the hive is inverted, look to the top of the outside combs for sealed honey. As long as that may be seen, the colony will not starve in two weeks, unless plundered. When none can be seen, it is best to feed. Although it may be done out of doors—unless the cold weather is unusually protracted—it is better during this month, to bring the hive to the house as directed last month. When these things are neglected, a colony may be found some morning apparently dead—bees on the floor, and scattered among the combs. But unless they have been in this situation over twenty-four hours, they may be revived. To ascertain this, warm a few of them gradually; any sign of life indicates that the swarm may be saved. To pour a few spoonfuls of liquified sugar, or honey warmed, directly among the bees between the combs, is probably the best thing to be done. Tie a cloth over the hive to confine the bees, and bring to the fire to warm up. In a few hours, after consuming all the food, they may be returned to the stand, or room, and regularly fed as before directed. Another phase of destitution, is desertion. It is liable to take place in unfavorable seasons, up to the time of clover flowers. The bees issue precisely as a swarm, and continue flying a long time. They sometimes cluster, but more frequently return, or join some other stock. In the latter case, they are frequently destroyed. If they cluster, return them to their own hive, and feed regularly.

The presence of a queen is often determined on first raising the hive. A good stock will have long since commenced rearing brood, and some few immature bees may usually be found on the board. If none are seen, some of the eggs may possibly be discovered by a close inspection of the dust that has fallen from the cluster. Either, when seen, may be taken as evidence of a queen. The absence of these signs is suspicious, but not conclusive. The stock should be disposed of before running down too low. By driving the bees away from the combs when they have clustered, sealed brood can be seen if they have any. A queenless colony at this season, will frequently desert and join some other. The queenless, or deserted hive should be cared for immediately. Without bees, the moth will destroy it as soon as the weather is sufficiently warm, yet by smoking thoroughly with sulphur as the worms hatch, it may be saved advantageously for a swarm. An ordinary swarm without a queen now, will about run down by the swarming season. The bees should be joined with some weak stock. If any old stock is diseased just enough to spoil it—such as is mentioned in "The Apiary for September, 1860"—it will be just what is wanted for either the queenless or deserted hive.

If any colony is found dead, and the bees have been left between the combs till moldy, all the affected portion should be broken out. The remainder, if clean, may do for the use of the bees again. . . . If the bees between part of the combs are dead, remove them; when moldy, cut out the combs as far as mold extends.

Bees that are in the house, may be set out on the first fair, warm day. Should they become uneasy before such a day occurs, and leave the hives, put some snow or ice on the floor of the room. Put out but few at first—in an hour or two, as many more. Each should occupy its old stand if possible. Let the first bees as far apart as possible, and others may be set between afterward. By looking just at night, at those set out during the day, the loss of the queen is often ascertained by the unusual commotion among the bees at this time.

Unbolted rye meal finely ground, is still recommended as a valuable bee feed. Its chief value depends on being fed early, before much pollen is obtained from the flowers. Let all the bees have access to it, by spreading over a large surface, as a sheet or floor made for the purpose, and placing it in some warm corner a few rods from the hives.



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

In a New Place.—Hitherto, the "Basket" matter has been placed at the end of the paper, where it has been subject to contraction, and sometimes to crowding out altogether, by the varying space occupied by the markets, business items, and advertisements. But this department has come to be so valuable, that we shall hereafter allot it a definite space here. (Several readers have criticised the arrangement of our pages; they are not aware perhaps, that it is necessary to place most of the finer engravings on the *inside* sheet, and put it upon a double steam press nearly a month in advance, so that it can be worked carefully. The outside sheet, containing the markets, etc., is printed more rapidly on two presses, and is delayed to the last moment possible, without missing the Pacific mail, leaving on the 21st. Contributors will therefore understand that communications and items must come very early to hand, to find a place in a particular number, and especially so, if to go on the *inside* sheet.

To Correspondents and Contributors.—We beg our friends who have kindly contributed a great variety of articles, suggestions, queries, etc., not to be annoyed at any apparent want of attention. From the great mass of letters received, and articles contributed, we must necessarily select for each paper, not only the *best*, but such as will make up a variety, and be most seasonable. We have many really good articles that will not spoil by keeping any length of time.

The Lists of Apples, and of Officers of Societies, asked for last month, come in slowly, so that we can not yet begin to make up anything like complete tables. Please forward them as early as may be.

Onion Culture—*New Edition.*—Our first edition of 1000 copies having been exhausted, we have printed a new edition. This most valuable work should be in the hands of every one growing onions. It will be sent, post-paid, for 21 cents. See New Premium list, page 96.

An Elementary Book on Agriculture, for use in the schools of the State, is being prepared under the auspices of the Mass. Board of Agriculture.

Cutter's Seedling Strawberry—*Correction.*—On page 57, February *Agriculturist*, this berry is wrongly classed with the pistillates. A note from Mr. Cutter, correcting the error, says "it is not only a *perfect* flower, but is not excelled in quality by any other berry in that vicinity."—We have not grown it as yet.

Evergreen Nursery—*Correction.*—This nursery is located at Woodbury, N. J., instead of "Woodlawn," as advertised last month.

Raspberries.—James Glass, Livingston Co., Ill. The Antwerp is generally considered an excellent variety; it may be yours are not true to name. The yellow variety described by you resembles what is known as the "Keeler." It is highly esteemed by those who have it.

Grapes in California.—Vine-growing in Calaveras County, California, has greatly increased in the last two years. In 1855 the assessor reported 24,000 vines, while in 1860 he reports 169,000.

Japan Pea.—A. A. Chandler, Cumberland Co., Me. The small bean, as you call it, is the Japan Pea, but resembles a bean in appearance. It is principally grown for stock, being quite prolific. The larger kind sent, appears to be a sort of Southern bean.

Sprouting Sweet Potatoes.—M. C. Taylor, Chester Co., Pa., and others. Sweet potatoes will usually sprout readily in a hot-bed. Without artificial heat they sometimes remain long in the ground and rot.

Germinating old Seeds.—D. Pangburn, White Co., Ark. Old seeds which do not grow readily when planted in the ordinary manner, will frequently vegetate after being scalded for a short time, say two minutes; or better, soak in warm water until the shell is softened.

Old Seeds Vegetating.—S. B. M., New-York. As you do not name the kinds of seeds 3 or 4 years old, we cannot judge whether they are good or not. Many

kinds, if kept dry, and not subjected to great changes of heat and cold, will preserve their vitality for many years, centuries even; while a few, parsneps for example, are not to be positively depended upon when more than a year old. Better try a few in pots or boxes of earth, in-door.

Hubbard Squash.—The Massachusetts Horticultural Society has granted a special premium of \$25 to Mr. James J. H. Gregory, for the introduction of the Hubbard Squash. This variety, which has been on our list for free distribution for two years past, has given the highest satisfaction to those who have tried it, as is attested by numerous letters received from correspondents. The greatly praised Honololu excels it in prolific bearing, judging from our own experiments, but for flavor; either in "sauce" or pies, it must yield the palm to the Hubbard. We like it so well that we have procured a large supply of seed from Mr. Gregory for free distribution.

Carrots—Value, etc.—P. G. Daniels, Tioga Co., N. Y., writes, that for ten or twelve years past he has raised one to two hundred bushels of carrots annually. He considers 500 bushels per acre a fair yield, and that 15 cents per bushel will pay well for growing them, which would afford a profit of \$105 per acre, reckoning them at \$12 per ton (60 lbs. per bu.)—providing the yield be 500 bushels. He esteems one bushel of carrots *fed* with one bushel of oats, to be fully equal to two bushels of oats, for horses; and ranks carrots as the best roots for other stock.

Locust for Timber.—J. K. Whitson, Riley Co., Kansas. Locust is a good timber for you to raise, and the Yellow (wood yellow) variety is the best. The Osage Orange will probably be a good hedge plant with you.

Imphee Sugar.—Walter Carothers, of Richland Co., Ohio, sends us a fine sample of sugar, made from the Imphee or African Sugar Cane; says he raised both Sorghum and Imphee last year, and found the latter to crystallize much sooner than the former, and advises the planting of a greater breadth of this and less of the sorghum the coming season. This is against the general experience, we believe. In this particular case the imphee probably went back to a valuable form, but it may not be so with the next crop, for we doubt whether there has been any pure (unhybridized) seed distributed in this country.

Sorghum Syrup in Iriquois Co., Ill.—J. G. Brandenburg, writes that there were at least 10,000 gallons of this syrup of excellent quality, manufactured in the above County during the past Fall.

The Immense Grain Crop of the West.—Some of the Western subscribers to the *Agriculturist* found fault with our high estimates of the grain crop last Autumn. Here are a few figures for them: During the year 1860 there were received at Chicago, 36,500,000 bushels of grain of all kinds; at Toledo, 14,504,203 bushels; at Milwaukee, 11,040,488 bushels; at Detroit, 6,780,099 bushels; at Cleveland, Sandusky, and other ports, over 11,000,000; or in all, over 80,000,000 bushels! This is only a portion of the surplus sold, not including what went down the Mississippi, out by railroads, etc., while the surplus still on hand at the close of 1860 was vastly more than at the close of 1859.

Moore's Rural New-Yorker.—During a recent pleasant call from our friend D. D. T. Moore, we were glad to learn that this journal is holding its ground well, notwithstanding the "hard times." The Rural is worthy of the success it has attained. It is devoted in part to Agriculture and Horticulture, and in part to news, family reading and miscellany. Published at Rochester, N. Y. \$2 a year. Like the *Agriculturist*, it aims to promote good morals, as well as communicate useful information. Though our strongest business competitor, it is laboring for the same ends, the elevation of cultivators and their families, and we bid it god speed—there is room enough for a dozen such journals, and every family would be the gainer by taking both papers. No one should confound the Rural New-Yorker with an imitation published in Oneida Co., called "Miner's Rural American"—a different affair altogether.

Class Book of Botany, by Prof. Alphonso Wood, author of a popular botanical text book, published fifteen years ago. The arrangement of this new work, upon the natural system, is clear; and many families of plants enumerated, contain additions not found elsewhere; some of the well known exotics are also included. The descriptions are distinct and full, and the illustrations, particularly of structural botany, are well executed. It contains 882 pages and is a valuable addition to the student's library. Published by A. S. Barnes & Burr, N. Y. Price \$2. If desired we will forward copies post-paid upon receipt of price.

Harris' Work on Insects.—We are glad to learn from the Message of Gov. Boutwell, of Mass., that a revised edition of this valuable work of the late Dr. Harris is to be published at the expense of the State, dur-

ing the present year. As 1000 copies will be at the disposal of the present Legislature, he recommends that a portion of them be furnished for distribution, to Professor Agassiz, who has gratuitously rendered important service in the revision of the work.

Book on Horses.—Silas M. Douzer, Washtenaw Co., Mich. Herbert's Hints to Horse-keepers, is a valuable, plainly written work. Price \$1.25, for which it can be forwarded post-paid by mail, or it can be easily obtained as a premium—See page 96.

A Cheap New Pen.—We have in daily use a new style of metallic pen, patented by Messrs. Warren & Ludden, of this City, which is formed by a combination of metals, and "diamond pointed" with iridium in the usual manner. The advantages claimed for it are, that while it is, like gold, uncorrosive, it is, if any thing, more elastic, and can be made at one-third the price of gold pens. They are also ingeniously fitted upon an ordinary wood pencil, so that both can be carried in the pocket, always ready to be used as pencil or pen.

To Prevent Skippers in Hams.—In a communication to the Cotton Planter, Mr. W. McWillie says he avoids the skipper by simply keeping his smoke-house dark, and the moth that deposits the egg never enters it. He has now hanging in his smoke-house, hams one, two, and three years old, and the oldest are as free from insects as when first hung up.

Byfield Swine.—A subscriber in Winnebago Co., Ill., wishes to know where he can get a Byfield sow for crossing with the Suffolks.

Colic in Horses.—The Farmers' Advocate prescribes for colic in horses: a blanket wrapped around the body and drenched with cold water. It steams like a boiling pot, and cures in fifteen minutes—if it don't kill.—*E. V. American Agriculturist.*

Cure for Laurel Poisoning.—Wm. F. Bassett, Franklin Co., Mass., recommends to give to each poisoned sheep, one oz. essence of wintergreen; a little more in bad cases.

Keeping Moths from Bees.—J. F. Wescott, Green Co., Wis.—Remedies are given in *Apiary* for July and August of last volume. Vessels of sweetened water set about the hives, only at night, during the early part of July, are the best remedy; they entrap and drown the night flying millers.

A High priced Dog.—A new feature at the late annual cattle show at Birmingham, England, was a show of dogs of every known breed. Among other costly dogs was a King Charles spaniel, priced at \$2500. Whew!

Protecting Trees from Sheep.—C. Jackson, Niagara Co., N. Y., writes that young trees may be protected from sheep, which sometimes nibble and injure the bark, by applying to the trunks a mixture of four quarts of hog manure with eight quarts of water. Put it on with a broom or brush—the sheep will prefer nibbling the grass, and the application will not injure the trees.

Cement for Glass and Iron under Water.—The following is, we believe, the method of making cement for aquaria, used in the London Zoological Gardens. Sift together, say one gill of litharge; one gill of calcined plaster of Paris; one gill of dry white sand; and one-third of a gill of finely powdered rosin. Keep corked tightly, and use as needed, by mixing into a putty with boiled linseed oil, adding a little patent dryer. Mix each lot at least 15 hours before using. After applying, let it dry a few hours before letting on water. A writer in the Tribune endorses this as the best of a hundred different compositions tried by him, and says it is equally good in salt or fresh water, and does not affect the water at all.

Reapers and Threshers Combined.—C. Durst, Gillespie Co., Texas. There are reaping machines with threshing attachments which cut, thresh, and winnow at one operation, but the cost of which, or the names of the manufacturers we can not now give. Most grain growers prefer a simple reaper.

Hauling out Green Manure.—J. Miller, jr., Fairfield Co., O. Usually, it is not best to haul and spread manure upon the field as fast as produced. It is improved by fermenting; and is increased in value by adding to it muck, sods, or even good soil. If specially desirable to take it to the field during Winter, let it be put in heaps and covered with a layer of soil, until you are ready to spread and plow it under.

Dressing Sheep—Quick Work.—At a sheep-dressing match in this City, in February, after the sheep were merely killed, Rodger Gorman dressed *ten* of them, fully preparing them for the meat market in 22 minutes and 3 seconds! His competitor dressed ten rather larger sheep in 32 minutes.

Angers Quince Seed.—D. C. Benton, Adams Co., Ill. Quince seeds will not produce the particular sort planted, any more than apple seeds. Better get cuttings, or a few rooted plants which you can afterward layer. You will find the Bloomington (Ill.) Nurseries advertised in February *Agriculturist*, and other reliable ones in this and other numbers. We do not knowingly admit advertisements of unreliable men.

High Manuring.—George R. Underhill, Queens Co., N. Y., whose experiments in potato culture were noticed in the Feb. No., p. 43, writes that last Spring he prepared 3 acres of land for an asparagus bed, on which 1000 one-horse loads of manure were used, and 300 loads more will be applied this year. Another plot just commenced will receive about an equal quantity. His experience warrants high manuring. We shall be pleased to receive accounts of the experiments Mr. U. proposes to make, the coming season.

Clover Roots and Tops.—"Subscriber." Clover roots contain more solid matter than the tops, pound for pound. All parts of the plant are valuable fertilizers; and land will be enriched more rapidly by plowing all under, than by leaving only the roots to decay in the soil.

How much Manure?—Mr. Boynton of Sandwich, Mass., has a well drained meadow of $4\frac{1}{2}$ acres, to which, every November, he applies the year's manure of 15 horses. As the result, he gets from 26 to 34 tons of hay annually, including two cuttings. The second growth, or aftermath, ranges from 7 to 10 tons.

Prolific Sheep.—A subscriber writes to the *Agriculturist*, "I have one ewe of the Tartar breed, that had two lambs in August, 1859. In January of last year she brought forth three, and on August 20th, she dropped too more; making seven lambs produced in about one year. Her first twins are also now with lamb. I find the Tartar crossed with the South Down give the best lambs I ever butchered."

Aged Horses.—G. E. Kimberly, New-Haven Co., Conn., writes that he has a white pony, which, to the best of his information, is 40 years old. He weighs 600 lbs., and does all the work connected with a store.

Largest Horse in the World.—Wilkes' Spirit of the Times says that a gentleman named Potter, recently exhibited a horse at Newcastle, Penn., that weighs 1777 pounds. He is a bright bay, of the Clydesdale breed, and was bred in Cumberland, England. The American Stock Journal, speaks of this as "the largest horse in the world." We refer our cotemporary to the Farmer's Magazine (London), which has an account of the dray horse that took the first prize at the Royal Agricultural Show at Norwich, in 1857. This horse was reported to be $17\frac{1}{2}$ hands high, and to weigh 2463 pounds.

Good Cattle in Penn.—The Chambersburg Times mentions six fine steers, all raised on the farm of Philip Merper, Letterkenny, Franklin Co., the total live weight of which was 10,655 lbs.

Double Calf.—S. Uttee, Pike Co., Pa., says he had a heifer which could not be delivered of her calf, and on killing her, he found a large calf with a double head complete, and double joints in its hind legs, and asks if such occurrences are common? They are quite rare.

Corn and Cob Meal for Swine.—Mr. A. Reed, says in the Dairy Farmer, that he has known this meal to produce constipation in several instances. Two years ago this Winter, he fed six fine shoats exclusively upon corn and cob meal. After three or four weeks feeding, several of the pigs refused to eat, and in three or four days bloated and died—a post mortem examination of these showed that they were constipated. To those still alive, one ounce of Epsom Salts was daily given to each, in their food, and an injection of warm soap suds, they were also given one feeding of carrots per day. All thus treated recovered.

A Large Pig.—Henry Mariton, Cumberland Co., Me., writes that he has slaughtered a pig, just 20 months old, which weighed, when dressed, 668 pounds.

Are Bees Domestic Animals?—A singular point of law was recently submitted to the French Courts. A boy having been knocked down and killed by a horse that had been stung by some bees, the father brought an action against the owner of the bees. The lower court held that bees are "ferocious animals," which no one can be expected to control, and, therefore, the action could not be maintained. An appeal was presented to the Higher Court, and after long arguments, the Court decided that bees are "domestic animals," and that the owner is responsible for any injury they commit.

Increased Yield of Butter.—The dairy of the Hon. Zadock Pratt of Greene Co., N. Y., shows a marked

improvement for the last four years. In 1857 he made on an average one pound of butter from 39 lbs. of milk; in 1858 from 32 lbs., in 1859 from 29 lbs., and in 1860 from 24 lbs. Here, in other words, 39 lbs. of milk, or 19 quarts, produced 10 ounces more of butter in 1860 than in 1857. Such an increase would add largely to the profits of dairymen generally. Would not proper skill and care secure the same result everywhere?

To Expel Earthworms.—In answer to the query in last month's Basket, "Pennsylvania" writes. We have not proved the common earthworm destructive to pot-plants, but have sometimes watered them with weak lime water—a small teacupful to a plant in a 2 qt. pot, and in less than 24 hours have found at least three kinds secreted in the saucers below, frequently in great numbers. The appearance of some of them made it quite satisfactory to have them removed from the tender roots. If they are not destroyed by the operation, it is of importance to displace them immediately after disturbing the pot, as they will often crawl back on finding their hiding place discovered.

Salt for Wire Worms.—Several inquire about this. It is confidently asserted by some that two or three bushels of salt sown broadcast on an acre will destroy wire worms. We have always doubted this. Fifty to a hundred bushels per acre might have some effect; but even the larger quantity would hardly make the ground salt enough to disturb the worms. We have somewhere seen a statement that two bushels of salt put upon a rod of ground badly infested by wire worms did not stop their ravages. This amount (160 bushels per acre) would give less than a gill to each square foot—not enough to pickle it very strongly, if 8 or 10 inches deep.

Salting Wheat.—R. Sewell, Baltimore Co., Md., inquires if three to four bushels of salt per acre, sown on Winter wheat, will prevent the fly, (Hessian, or midge?); also whether the application will injure the grain. Will those who have tried it please answer.

Larks Wanted.—F. Boyce, Washington Co., O., is of opinion that the grain fields of Germany are kept free from insects by the large numbers of larks, which make their home in the grain fields alone. He states that the bird is held almost sacred there; no man or boy would injure one. He thinks they should be imported and disseminated here. A good suggestion; though were there less slaughter of our own native birds, there would be more slaughter of insects, and less loss of grain.

Cure for Gapes.—J. W. Rockwell, Fairfield Co., Conn., writes that gapes in fowls may be prevented by mixing cayenne pepper with their feed, a tablespoonful to a pint of meal, as soon as they are observed to sneeze. Previous to adopting this remedy, he lost nearly all his chickens, but for two years past in which it has been tried, all have been raised.

Shooting Rats—Also Worrying them Out.—S. Paschol, of Chester Co., Pa., recommends shooting a few, and says the rest will leave. Wool should be used for gun-wadding to avoid fire, and great care should be taken, as many barns have been set on fire with guns used in killing rats. (This method has often proved effectual, but few persons can afford the time to watch, wait for, and shoot the pests.—Ed.)—In another case, Mr. P. worried them out, by stopping up all new holes as soon as made, except one before which a steel trap was placed. The rats got disgusted and quit.

A very Large Potato.—Mr. J. S. White, Johnson Co., Ind., writes to the *Agriculturist* that he last year raised a potato which weighed $3\frac{1}{2}$ lbs.; he asks who can beat it?

Sugar Beets.—R. B. Cram, Hillsboro' Co., N. H., and some others, ask for the experience of some practical grower, of the best method of raising sugar beets, and their value for feeding purposes.

Onions in Danvers, Mass.—Within six miles of South Danvers, Mass., 100,000 bushels of onions have been produced in a season. This crop does not exhaust the soil; since it has been continued on the same land for 20 years, yielding from 300 to 500 bushels per acre, each season, at a net profit of \$100.

Premium Corn Crop.—G. P. Ulrich, Berks Co., Pa., thinks the soil in his vicinity equal to any other, but it will not produce such tall corn crops as that of Mr. Long, (see Basket Item in January *Agriculturist*.) He thinks there must have been a mistake in measuring the land, or the corn was weighed, cobs and all, to get the 94 bushels per $\frac{1}{2}$ acre. If really correct, Mr. U. hopes to see the method of raising given in the *Agriculturist*. Will Mr. Long respond?

Good.—A farmer in Watertown, Ct., has been fined for letting Canada thistles go to seed on his own land.

Get Clean Seed.—The foul seed grievance is a real one. Farmers buy nine-tenths of their weeds when they purchase their seed, and thus are made to pay for what costs them many dollars, year after year, to get rid of.

Sorghum Brooms.—The Delaware (Ohio) Gazette mentions the receipt of some superior brooms manufactured from the brush of the Sorghum or Chinese Sugar Cane. It is claimed that besides being better than the ordinary broom corn, the yield of brush is much larger, to say nothing of the value of the main stalk for syrup and sugar. [Is there not some mistake here? The Sorghum as we have grown it, and seen it grow, has not a brush of sufficient length and fineness to be adapted to making good brooms.—Ed. *American Agriculturist*.]

Sorghum Syrup in Iowa.—A. H. Perry, Cedar Co., Iowa, writes that he made 2,500 gallons syrup the past season, most of which was of very good quality. He wishes to know how to convert it into sugar.

Profitable Acre.—J. G. D. B., Coxsackie, N. Y., last year sold currants, plums, pears, and apples from part of his acre of ground, to the amount of \$235, after paying for freight, cartage, and commission. The remaining part of the plot is occupied by the dwelling, front yard, and kitchen garden. This shows what can be done; many readers would like to know how it is accomplished—also how much labor and money were expended to bring the place up to such productiveness.

Strained Honey in Boxes.—J. C., Windham Co., Conn. We know nothing of the clear honey put up in beach wood boxes, to which you allude.

Coal Oils. It is said, and perhaps truly, have the valuable property of never becoming rancid. All other oils, vegetable and animal, absorb oxygen, and decay; but the mineral oils derived from coal, are permanent compounds, like water, and do not experience corruption or change from time and exposure.

California Beer Seed.—Mrs. E. Weed, Obion Co., Tenn. The substance described in your letter, resembles in its effects, the ferment plant, sometimes called the "Vinegar plant," notes on which were published in the *Agriculturist*, Vol. XVIII, pp. 247, 307 (Aug. and Oct. Nos.) In form and appearance, however, it differs from that article. We shall be pleased to receive and examine the specimen you kindly offer to send.

Wet Cellars.—"Subscriber." A coating or two of cement upon the bottom and sides of a cellar will generally exclude water which comes in through the soil. If the ground be springy, a thick grouting of stones and cement will be needed to keep water from bursting up through the cement. If it enters from near the surface, dig a drain to carry it away.

Soap Stone Griddles.—P. C. W., Town Hill, Pa., writes that his experience with them is not favorable. He found it took too long to heat it, monopolizing the stove nearly an hour; the cakes would stick a little to the griddle, and more to each other, and finally the whole thing "blew up," scattering the fragments and the batter all over the kitchen!

The Largest Tree in Massachusetts. is said to be an Elm, situated upon the Hubbard farm, in North Andover. It is 110 feet in height and its branches spread over 100 feet in width. Its girth, at 6 feet from the ground, measures $22\frac{1}{2}$ feet.

Green Wood and Matrimony.—Mrs. C. J. Allison, Richland Co., Ill., says very truly "There's nothing takes the romance out of a young wife, like punching wet, green, or soggy wood in a cook stove." Truer than some preaching. The man who requires such a vexatious task of his wife, by neglecting to provide a well seasoned wood pile, deserves "punching" himself—shiftless farmers please make a note of it.

Starch in Vermont.—At Stowe, Vt., there are five factories in which starch is made from potatoes. Each consumes about 20,000 bushels per annum, and eight pounds of starch is the yield of each bushel.

Accidents with Farm Implements.—Next to steamboats and railroad accidents, says an Iowa paper, more people have been killed last year by harvesting and threshing machines than by any other cause.—This is guess work and rather random guessing, thinks the *American Agriculturist*.

Ditching Machine.—Thomas S. Hall, Stafford Co., Va. We know nothing, practically, of the machine you refer to.

Death from Matches.—The Dublin Medical Press states that a child aged sixteen months, was poisoned to death by sucking the phosphorus from lucifer matches, which had been given him by a little companion,



Fig. 1.

Fig. 2.

Draining—Why—Where—How.

(Continued from page 36.)

WHY—WHERE.

Every cultivator should understand and appreciate the following well established facts, which are applicable to all soils that are not naturally drained by a porous subsoil. They were in part referred to last month:

1. Draining prevents the winter-killing of crops. It is the expansion of water in the soil, and not the expansion of the soil itself, which tears and destroys the roots of plants.

2. Draining land prepares it for much earlier working in Spring, and causes it to remain dry and warm later in Autumn; it is therefore equivalent to lengthening the season; and has the same effect as moving the land from one hundred to five hundred miles southward.

3. Drained land can be worked much sooner after showers; crops are also less retarded by cold rains, and they therefore grow larger.

4. Drains, by carrying off the water underneath, prevent its evaporation from the surface. When water evaporates, even in the form of cold vapor, it carries off a large amount of heat in a latent or hidden state. Drained soils are always warmer and more congenial to plants.

5. Most undrained lands remain saturated with water during half of the year, or from November to May, and many soils are in this condition three-fourths of the time, if we include wet spells during Summer. But while the pores are already full of water, melting snows and falling rains run off *over the surface*, carrying with them into low lands, and into brooks and rivulets, a large amount of manures, or of vegetable matter, and soluble mineral elements of soils. All the color of rivulets, brooks, and rivers, is given by these rich materials washed from the soil. When land is underdrained, the water soaks *down through* it; the soil filters out and retains these valuable materials, and only pure water runs away in the drains. For this reason draining is equivalent to manuring.

6. "Two bodies can not occupy the same space at the same time." If the pores of the soil are filled with moisture, air is kept out. Drain off the water, and air will circulate more freely through it. If the drains at their outlets are left open, the air will pass along them and rise through the soil. This free circulation of the air is useful in many ways, thus:

7. Air circulating in the ground oxidizes and destroys poisonous metallic salts which abound in every soil not exposed to air. Clover, for example, is a deep rooted plant, which flourishes only a year or two on most soils. The reason is, that when its roots enter the subsoil and take in the poisonous salts, the clover is literally drugged to death. Give it a deep, air-permeated soil, and it will grow without renewal for half a

dozen or more years. This has been fully proved.

8. Air decomposes manures, and other vegetable matter in the soil, and fits their elements to enter the roots to nourish the plants.

9. Air carries into the soil more or less of ammonia, and carbonic acid, which act as nutrient or stimulants to the plants. Here (as in 6) we see that draining is equivalent to manuring.

10. Air, in passing from drains up through the cooler soil, parts with a considerable amount of moisture. The warmer the air, the more the concealed moisture it contains, and the greater the amount yielded to the cooler soil. The free circulation of air obtained by removing the water has, therefore, a direct tendency to make the soil more damp during a drouth. Corn and other crops growing on drained, deeply worked land, seldom, if ever, suffer from drouth.

11. When warm rains fall upon a drained soil, they descend through it into the drains, instead of running over the surface, and they carry in *warmth*, as well as ammonia and other useful gases, to the roots and increase their growth.

12. Water in a soil causes it to bake or compact. If drained, even clay land will be more pulverulent, or crumbling; it can be much more readily worked, and it yields better crops.

Several minor considerations might be added in favor of thorough draining, but are not the above amply sufficient to convince every one that it is of the highest value? The roots of plants run deeper and spread further, in a congenial, dry, pulverized soil, and they sustain a large growth above ground. Figures 1 and 2 are fair illustrations of the difference in the size and vigor of plants when growing on a shallow soil, and on one deeply pulverized and made dry by draining.

WHERE.

A careful study of the advantages above detailed, will show that nearly all soils will be benefited more or less by draining. The rare exceptions are those cases where there is a substratum of gravel, or porous soil, having an outlet, and lying so inclined as to be as effectual in carrying off water as a series of underdrains. But in no case can there be a *natural* provision for the circulation of air, to afford the advantages named above (6 to 11).

To ascertain what fields need draining most, dig a few holes two or three feet deep, at different points. If water stand in the bottom of any of these three or four days after a heavy rain fall, it is conclusive evidence that the soil will be benefited by draining. The more or less urgent need of draining, may be judged of from the rapidity with which water oozes in through the sides and bottoms of the holes, and the length of time that has intervened between the fall of rain and the examination. The amount of rain will also have an influence. If no water be found in the bottom of a hole three feet deep, say four days after a thorough soaking rain, there is no urgent necessity for immediate draining. Since the subsoil often varies greatly in the same field, it is well to sink a number of trial holes at different points. A good time to make observations of this kind is early in Spring, as it can then be readily determined whether the ground remains saturated with water for a long time, or is soon dry.

Another method is, to observe the condition of the *surface* during a moderate rain, and a few hours after. If the water soon runs over the surface, or the top soil remains wet for a day or so after the rain, we may know that the subsoil is already so saturated with water as to prevent its absorbing that which has fallen.

Fig. 3 illustrates the formation of a large class of soils. Here we have a mass of porous soil, *U*, *X*, with irregular beds of clay, *m*, *a*, running through it. It will be seen that from *a* to *b*, and

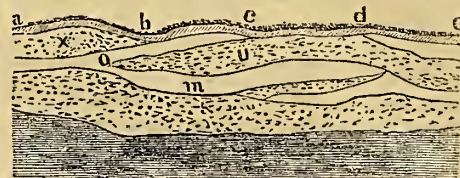


Fig. 3.

from *c* to *d*, the surface will be kept dry, because the water will rapidly flow down and off through the gravel. From *b* to *c*, and again from *d* to *e*, the clay beds under the surface will prevent the sinking of water, and draining is needed. These layers of different kinds of soil are generally discovered by observing the sides of a well as it is being sunk. The different layers sometimes each extend for miles, and sometimes but a few rods.

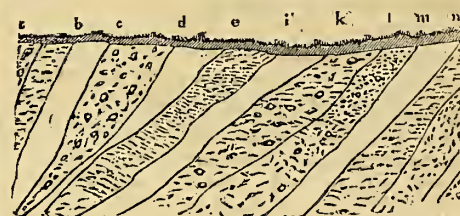


Fig. 4.

Fig. 4 illustrates another arrangement which is by no means uncommon. Here are alternate beds of porous and compact soils. The surface from *a* to *b*, *c* to *d*, *e* to *i*, etc., will be dry; while from *b* to *c*, *d* to *e*, *i* to *k*, and from *m* to *n*, the surface rests upon an impervious clay which retains the water. These beds, also, are sometimes of large extent, while a dozen or more of them sometimes occur in the same field.

For the American Agriculturist.

Benefit of Subsoiling—Examples.

One effect of this practice is to render the ground in the Spring dry and warm, earlier than where it is not so treated. Instances of this have lain under the writer's eye several years.

A gentleman in this neighborhood, who was building up a new home with ample surroundings of lawn and fruit gardens, was advised to subsoil the land for his young orchard. He did so. The adjoining land, devoted to lawn, was only plowed, but both were soon seeded down to grass. We have noticed for several years, that the young fruit orchard parts with its snow earlier in Spring, and becomes dry to the foot, earlier than the lawn. The grass shoots earliest there in the Spring, and grows most vigorously in Summer. As the land is of the same quality in both cases, and the treatment in all other respects has been the same, why should not these effects be charged to the subsoiling?

Here is another illustration: Four years ago, we ran a drain three feet deep across a lawn, for a distance of sixty feet or more. The subsoil was thrown back to cover the drain pipe, the top soil replaced on the top, and the sod covered the whole as before. Yet, for some reason, the line of the drain is now perfectly apparent to every beholder, the grass being greener and stronger along its track than anywhere else. Even in the midst of a severe drouth, and when the grass is shorn very close, that green line is unmistakable. Will any doubter deny

that this is owing to the thorough trenching of the land there? Suppose, then, that subsoiling, even less thorough, were practiced over the entire lawn, would not good results follow? G.

Sow Grass Seed this Month.

The grasses have many enemies, and it is frequently necessary to re-sow fields where the seed has not taken well, or where the roots have been eaten badly by worms. Wherever the grass is deficient, whether in pasture or meadow, it is a good plan to sow seed at this season. As a rule, seed enough is not used when meadows are laid down to grass. After several years experimenting, we have never found seed to "take" so well, as when sown upon the frozen ground, say in the morning, the latter part of March or early in April.

The alternate freezing and thawing at this early season, open crevices in the soil, and furnish the seed with that very slight covering which it needs; the heavy Spring rains also help to bury it. The use of the bush harrow and the roller would make the covering still more sure, but we have never failed of a good "catch" without resorting to them. In a few weeks the young clover and herds-grass make their appearance, and yield a tolerable crop the first season. This is a great deal better than bare patches in the meadow, which will soon be grown over with sorrel or weeds, if not occupied by grass.

Mangel Wurzels versus Corn.

W. D. M., of Warren Co., Mo., writes to know if it will pay to raise this root for Winter feeding, where Indian corn can be grown at the rate of 30 to 40 bushels to the acre. It pays abundantly at the East, where corn is raised at the rate of 60 to 80 bushels to the acre. If it were only of equal value per acre with corn, we would still raise it, because it gives a variety of food, which is as much desired by cattle as by men. But one can hardly fail to get double the value of fodder from an acre of these roots, that he would get in corn. We raised last season at the rate of 1600 bushels to the acre, on land that would not have produced over 80 bushels of corn. The roots at the market price were worth \$400. The corn and stalks well cured, would not have been worth over \$100. Land that will produce forty bushels of corn to the acre, ought to produce from six to eight hundred bushels of mangel wurzels. With thorough working and manuring, there is no difficulty in getting from twelve hundred to two thousand bushels per acre. They should be planted in drills two feet apart, and one foot in the drill, thinned out to one in a place, and kept free from weeds. The seed is from fifty cents to a dollar a pound, and it takes about four pounds to the acre. They should be stored early, and not be fed out until after Christmas.

Experience with Dwarf Broom Corn.

Mr. Horace Kingsbury, Niagara Co., N. Y., writes that having been interested in the manufacture of brooms for several years, he last year procured an ounce of Dwarf Broom Corn seed from the *Agriculturist* office for experiment. This was planted about the middle of May, on ordinary ground, not very rich. The brush was some weeks later in appearing, than the common variety, and remained inclosed in the husk, except the top end containing the seed, which

prevented its lopping and becoming crooked.

The brush was of an extra fine quality, about the right length, and destitute of the hard thick stalk, frequently found in the middle of brush of the common kind. The only objection found was, that some of it was nearly worthless by not being sufficiently matured, but most of it made nice brooms. It was killed by frost on the 28th of September, and no seed appeared to ripen enough to grow. [Several inquiries are made for seed—we have none. Parties having good seed, might do well to advertise the fact.]

Stack Stables on the Prairies.

In the January *Agriculturist*, p. 8, a brief description was given of a "stack shed," an improvement upon the common method of stacking straw upon the ground for cattle to run to in Winter; but, as the writer stated, not the best plan. Mr. John Bennet, Ripley Co., Ind., describes a structure used on the prairies, as a temporary substitute for a barn, which is superior in many respects to the stack shed:

A pen of stout rails is built, 12 feet wide, as long as is wanted to accommodate the stock, and high enough for them to stand under. Rails are also laid on the top of this pen. An opening is left for a door. A rail fence is erected five feet distant from the pen, and entirely surrounding it, except the space left for the doorway. As the straw is threshed, it is stacked in the space between the fence and the pen, and upon the rails which cover the inclosure, thus leaving a warm dry stable. In this a manger can be built, or feeding boxes arranged; the cattle can be tied securely, and be kept comfortable. Light may be admitted through a window in the door. It might be well to set up one or two square tubes, made by nailing four boards together, to lead from the cover of the pen to the outside of the stack, for the purpose of ventilation; the straw stacked around them would hold them in place. Horses, sheep and other stock may be housed in the same way.

Mr. Bennett rightly says, cattle that live on uncut straw are not profitable to the owner. The straw, if used for feed, should go through a cutter and be mixed with meal, bran, roots, etc. This method, added to warm shelter will give satisfaction to the stock and their owners.

The Blue Jay in the Corn Field.

Farmers on every side are complaining loudly of the depredations of this handsome bird. It is not enough, they tell us, to quarrel with the robin and cedar bird, who pilfer our cherries, strawberries, and grapes. Nor is the crow our only enemy in the corn field, pulling up the grain as soon as planted. They can be frightened off by a few reports of the musket, or by a few objects of art and taste—mis-named scare-crows—scattered about in the field. But the Jay is bold and deceitful. He don't annoy us so much in the Spring as in the Fall, when the corn is ripening or standing in the stook. Nor does he make such a demonstration as the crow. He comes silently, and he keeps coming all day. His song has hardly music enough in it to compensate for his pilferings. And he steals not only what he wants for daily use, but lays up stores for cold weather. Deposits of corn are often found near this bird's haunt, in hollows of trees, and under the bark of those partly decayed.

What can be done with the Blue Jay? Has

he commendable traits sufficient to compensate for the toll he takes from the field? What say those fully acquainted with his habits? As far as we are now advised, all we can say on the jay-subject is that "Eternal vigilance is the price of safety."

From Canada East.

THE HUBBARD SQUASH—STARTING SQUASH AND MELON PLANTS IN POTS—ONION CULTURE.

[The following letter, dated at *La Prairie*, near Montreal, L. C., we give mainly for its suggestions in reference to starting squash plants in pots. This mode must be of special value to those living in the colder regions of the Canadas, as well as in the northern portions of New-England, New-York, Michigan, Wisconsin, and in other places, where it is difficult to mature squashes, melons, etc., during the short season between Spring and Autumn frosts. It will be noted that the vines were not transferred to the open ground until June 6th. Where a hot-bed or cold frames are not at hand, the pots may be started in a well lighted, warm cellar—or better in a warm room—they will not flourish in the dark.—Ed.]

To the Editor of the *American Agriculturist*:

From your liberal distribution of seeds last Spring, I obtained four papers, all of which proved true and valuable; but I write mainly to speak of one of them, the Hubbard Squash. Owing to our late season here, the seeds were not planted until May 23d, and then in small pots, three seeds in each, all of which grew. The pots were placed in a spent hot-bed, where they remained until June 6th, when the balls of earth containing the plants were transferred to hills in the open ground. They produced a fair crop, with scarcely an imperfect fruit, and were housed perfectly ripe Sept. 15th; the average weight 13 pounds. With respect to quality, these squashes are beyond comparison before any other we have ever tasted; when well cooked and prepared, they are truly excellent. They have a peculiarly agreeable flavor of their own, which we have not found in any other plant of the same tribe. The skin or shell, as it grows here, is very hard, requiring a smart blow with an ax to open it. Are they not the original cocoa-nut squash? We count this squash the greatest acquisition in kitchen vegetables since the introduction of rhubarb and tomatoes.

I also received a copy of the pamphlet on Onion Culture. This is certainly one of the best, if not the best work on the subject in the English language. Just think: the experience of 17 straightforward, practical men of common sense, condensed into some 30 pages. I have been a successful cultivator of onions for the last 20 years, yet I have derived from this work many valuable suggestions for future practice. There is, however, one feature of the work which deserves more especial notice, being seldom found in works on gardening, viz., the information given on raising and saving the seeds. It is evident that professional writers on gardening withhold much useful information, as to the details of seed saving; it may be they think it would injure the trade, but this is very unsatisfactory to the inexperienced inquirer. However, in these essays on the culture of the onion, we have everything required for the information of beginners—how to raise good seed—how to prepare the ground—to sow the seed, keep out weeds, to harvest, and to bring the crop to market. In other words they contain, as all such works ought to do, plain, practical, reliable information for the million.

JOHN WARCUP.

REMARK.—What Mr. Warcup says of the Onion Pamphlet is undoubtedly true. Our first edition of 1000 copies is all gone, and we have



yet to hear of one who has perused it without receiving much useful information. We are having a second edition printed, which will be ready by the time this paper goes to press. Any one at all interested in onion culture will find the work highly valuable. A copy is sent post-paid to any address on receipt of 21 cents. We shall also add it to our extra premiums for March. See last page—*Publisher.*]

Editors Humbugged!*

Editors commonly have the credit of being sharp fellows—they have *friction* enough to give them a keen edge. But even they get taken in now and then. *Example.*—For some time past we have been receiving letters from cotemporaries in different parts of the country, asking us to collect or inquire after bills at an “advertising agency,” nominally located in Wall-street. We have called or sent to the specified place several times, but can seldom find anybody in, and when any one is there, it is a boy, who has a ready answer, generally to this effect: “One of the firm is absent on business at Chicago, and the other is sick at home.”—The parties are very shy, but after considerable inquiry and investigation, the matter *appears* to stand about thus: One of those benevolent, “retired clergymen,” whom we have taken occasion to show up, and who is professing to be very sincere in his efforts to relieve suffering humanity, is carrying on his operations under a variety of names. Under one name, he is dispensing medicines in Williamsburgh; under another name he is doing the same thing in Brooklyn; under another name, he is teaching women in New-York, an art which will “afford them an easy livelihood;” and how many other enterprises he carries on we can not definitely say, though we have reason to believe the same man is at the head of at least half a dozen, all under different names. Under a still different name, or firm, he has an “advertising agency,” through which he sends out to the country papers a variety of advertisements of all his other swindling enterprises, under their various names, and in their different locations. At first, as an “advertising agent,” he paid for a few advertisements, to lull suspicion and get credit. Since then, he has sent out a large number all over the country, with fair promises to settle up in due time *after* the publishing of the business cards. Having thus published his various enterprises to the amount of many thousands of dollars, both himself and his fictitious partner, are conveniently absent whenever called for.—We have good reasons for withholding names at present; but have said enough to show how the thing is carried on. Our cotemporaries may draw their own conclusions.

Publishers can hardly be too careful in accepting “promises to pay” from unknown “advertising agents.” Such men as S. M. Petten-gill & Co., and John Hooper & Co., can be relied upon for honesty and promptness.

* Many Lottery Schemes, and various other swindling Circulars, etc., not needing hurried attention, have been received, and being crowded for room, we omit the usual chapter on humbugs this month.

“Giant Wheat.”

The above sketch we have engraved for the *Agriculturist* from one appearing in a foreign journal. This is claimed to be an accurate representation of a new variety of wheat, of which almost incredible accounts are given. Thinking that there must be at least something in the affair, we sent for a quantity, and have obtained two bushels, at an enormous expense, which we have put up in small parcels, and placed in our free seed distribution, No. 140, so that those of our readers desiring to try it, can obtain enough for a beginning, without cost. The berry is very large, and gives promise of being an acquisition. We read accounts of its having produced over 70 bushels per acre. A single grain is said to have produced 72 heads, containing 6,480 kernels, or 90 grains to the head. It can be rapidly multiplied, and the parcels we send out over the country, with careful culture, will yield a large amount of seed for another year, if found valuable. It is a winter wheat, and, of course, can not be sown until Autumn.

Painting Buildings.

This topic has appropriately occupied the attention of several “Farmers Clubs” the present winter. For the first coat or “priming,” there appears to be nothing better than the old method of using white lead in oil. A thin mixture fills the pores of the wood better than a thick one. For a second coat, if three are used, a mixture of white lead and zinc is good. For the final coat, whether it be the second or third one, we prefer the zinc paint for white. Though costing more per pound, it goes further, and is on the whole quite as cheap as lead, while it retains its clear white color much better than lead, which is tarnished by sulphurous gasses arising from the manure around barns and stables, and from the sink drain and other sources around the house. There is always enough of sulphuretted hydrogen in the air to gradually darken any surface paint containing lead.

Remarks on “Bone Spavin.”

When inflammation of the lining membrane of the horse's hock joint is caused by a strain, a severe blow, or a shock, unless it be relieved, ulceration will follow, the oily fluid contained in the joint will be absorbed, the cartilaginous (gristly) linings turn to bone and grow together, and the joint will be more or less injured according to the extent of the disease. This form of spavin may produce no external swelling, and is then not easily detected. Unless the disease be sufficiently extended to cause permanent lameness, a horse after a few moments' driving, and becoming “warmed up” will travel almost with his natural gait. A close observer may detect a slight variation from the proper motion of the leg, particularly the failure to slightly turn the hoof outward, but this is all the external indication. A purchaser should insist on examining the horse when first led from

the stable after a period of rest; any existing lameness will thus be more readily perceived.

Spavin is quite frequently shown by enlargements upon the joint, resulting from the ligaments which bind the joint together having been hardened into bone; and from a deposit of bony matter. If this deposit be directly upon the side of the joint, so that the tendons by which the leg is moved, must play over the swelling, there will be lameness. It often occurs, however, that the enlargement comes below the joint, when it may not greatly interfere with free motion of the limb, nor detract much from the value of the horse, although all such difficulties are blemishes, and lessen the market value. Bony deposits of the same character may be formed on the hind leg, quite distant from the joint, and also upon the fore leg, in which cases, though of the same nature as spavin, the disease is called splint.

All these difficulties result from abuse of the animal by overtasking, particularly while young, before the ligaments and other parts of the structure of the joints have hardened sufficiently to resist the strain put upon them. *With proper usage they need never occur.*

Harsh remedies for this disease, as burning, punching, etc., formerly so much in vogue, are now giving way to more rational treatment. A permanent cure for confirmed spavin need not be looked for. Where no perceptible lameness exists, and the growth of the excrescence is not increasing, let it alone, for by “tinkering,” the blemish may become a permanent injury. In the commencement of the disease, the animal should have entire rest and good feed, for months if necessary. While inflammation exists, Mayhew recommends the application of poultices (flaxseed), and to rub the part well with a mixture of belladonna and opium, equal parts of each, rubbed down with water; or to rub the enlargement with equal parts of chloroform and camphorated oil. After the pain has subsided and the heat has been reduced, an application of one part Iodide of lead mixed with eight parts of simple ointment is recommended, to reduce any enlargement, or at least to prevent further bony deposit.

Large Cattle.

According to the Boston Journal, the largest cow ever brought to the Brighton market, was sold there a short time since. She weighed, when alive, 2,650 pounds, and when dressed, 1,850 pounds. She was raised at Westmoreland, N. H., by Josiah Bennett, and was six years old. She was small, however, compared with the “Haxton Steer” sold in New-York in January, 1860, for \$850. He was raised and fed by Mr. Elnathan Haxton, of Dutchess Co., N. Y.; weighed alive 3,452 pounds, and 2,319 pounds in the dressed quarters, which was 67½ pounds of beef to the 100 pounds live weight. He weighed 167 pounds, net, more than the celebrated Washington ox, killed some years since, which was previously cited as the largest ox ever killed in New-York.—*Ed. Amer. Agriculturist.*]

For the American Agriculturist.

A Profitable Dream—How to Pay Interest Money.

MR. EDITOR: A dream, which I had a year ago last Summer, has done so much good here, that the neighbors say an account of it ought to be printed. I therefore send it, and a drawing representing the scene described, hoping it may wake up some others. One day in July, after a pretty good "nooning" passed in reading some of the articles on manures in the *Agriculturist*, from which I was interrupted by a call to drive the cow and pig out of the corn field, I sat down to rest on a pile of straw near the barn yard, and presently fell asleep. The strong smell of ammonia from the manure heap in the yard, together with what I had been reading and thinking of, probably gave rise to the singular vision.

I was in great trouble in my dream; the day for paying interest money had come, and a large amount remained to be made up—which, by the way, had often been a great vexation. While trying to contrive ways and means to meet it, a man presented me a paper, on which was printed: "Go look in the barn-yard!" Thither I went, and commenced digging with a shovel, expecting to find a pot of money. When a few shovelfuls had been thrown aside, a dense steam poured out, having such a strong smell, that it caused me to step back; when suddenly there appeared a wonderful phenomenon. The whole manure heap seemed alive with farm products of every kind, some of them in the most fantastic shapes, which came racing past me, trying to escape. First a huge pumpkin bounded along, and sprang into the air like a bombshell, then followed a noble cabbage, and after it a whole volley of roots. There were fowls that flew away cackling; bags of grain, bundles of hay and wheat, with grotesque heads and spindling limbs; and cattle, sheep, and hogs, all rushed out pell-mell, while I ran frantically to stop them and secure so rich a prize. My exertions awoke me, and I have not been asleep on that subject since, for this interpretation of the dream came like a flash: "Every heap of manure wasted by leaching away, or by escaping in the form of gas, is equivalent to a loss of a shock of wheat, or a bushel of corn, or a fat pig, or sheep, or milch cow." Then I remembered how often the *Agriculturist* had said, use muck to absorb the liquid manure, and to arrest the ammonia, and on the spot my mind was made up to put it in practice; for on one of the back lots of my farm are about three acres of as good muck as was ever dug. Accordingly, in the Fall I employed all possible leisure in preparing a pile of it for winter use to mix with the yard manure, and last Spring I had a heap of compost that made the corn field

sing—to the tune of eighty five bushels to the acre. Before that I thought fifty bushels a great yield. Besides this, there was enough to top-dress a meadow of ten acres, and increase the yield of grass from one ton to more than two tons per acre; and such vegetables as my garden turned out, would do a market-man's eyes

nure from the air, and storing it up in the roots and leaves ready to be plowed under. A dollar's worth of clover seed on an acre is never lost entirely, and it seldom fails to return full ten-fold.

In November I obtained a subsoil plow from New-York, (you, Mr. Editor, doubtless remember getting it for me, as I could not find one in



WASTING MANURE—WHAT RIP VAN WINKLE, JR., SAW IN A DREAM.

good. *I had no trouble, this year, when interest day came round!* Nor was this all. The neighbors who witnessed the results of using muck, have commenced trying it, and there has been at least twice as much good manure made within two miles of here, this winter, as during any year before. RIP VAN WINKLE, JR.

[REMARKS.—A lucky dream indeed! It is a favorable omen that the *Agriculturist* is beginning to trouble people, even in their sleep. There are a good many Rip Van Winkles yet, that need to be disturbed in their easy-go-along ways, and we are glad to see increasing signs of restlessness. But what shall be done for the great mass who are yet without the sphere of its influence? We want to get the paper into *their* hands. Who will help in this matter? On the last page of this paper the Publisher offers liberal pay to those who will this month take the trouble to hunt up some of the outsiders, and persuade them to try the *Agriculturist* for a year.]

How Mr. Jones tilled his Land.

(Concluded from pages 8 and 40, which see.)

After the removal of the wheat in the harvest of 1856, the field lay in stubble until late in November. No clover seed having been sown in Spring, there was little feed for cattle, so that after the hogs had gleaned the stubble, there was nothing to tempt an animal to go upon it. I ought to have sown clover seed upon the ground in the Spring; the feed after the wheat harvest, would have more than paid for the seed, and I should have had some clover sod to turn under. I do not believe any farmer can afford to let good land ever lie idle. If clover is growing upon it when not in use for other crops, the clover leaves are constantly gathering ma-

nure from the air, and storing it up in the roots and leaves ready to be plowed under. A dollar's worth of clover seed on an acre is never lost entirely, and it seldom fails to return full ten-fold. In November I obtained a subsoil plow from New-York, (you, Mr. Editor, doubtless remember getting it for me, as I could not find one in these parts.) I put a yoke of oxen, and a horse for a leader, upon a common plow, and started them around a wide "land." With another yoke of steady, strong oxen, I followed in the furrow with the subsoil plow. The first plowing was about ten inches deep—a little less on the part which had not been plowed deep in my first experiments. Owing to the frequent occurrence of stones in the deep soil, I had to go very slowly with my subsoil plow, and often stop and raise the implement, and I finally kept a man along, with a crow-bar and pick, to loosen and raise out some of the larger stones. They were left on the

plowed surface, and gathered off during Winter, when the ground was frozen so as to bear up the team, but thawed enough on the surface to loosen the stones from the soil.

The slow progress of the new implement gave opportunity for frequent resting by the forward team, so that the single yoke and horse were able to plow much deeper than if they had gone on steadily. For the first three days we did not get over more than half an acre a day. It took us nearly sixteen days to go over the ten-acre field. As there were three men, a boy, two yoke of oxen, and a horse, the expense would have amounted to nearly \$80 if I had hired it done; but at that time we had little else to do, and the whole actual expense, including cost of sub-soil plow, I set down at not more than \$50, at most.

The subsoil plow went down from five to seven inches below the other plow, so that the ground was worked mellow about 16 inches deep on the average. Of course, the sub-soil plow brought none of the under-soil to the surface. After the surface plow opened a furrow, the subsoil plow stirred up the soil below, and the next surface furrow was turned upon the loosened mass.

During the Winter of 1856-7, I hauled out about ten wagon loads (say 30 bushels each,) of yard manure, and piled it in heaps. In the Spring, the field being under-drained, was soon dry enough to work. The manure was spread, and plowed under, and mixed with the soil about six inches deep. Corn was then planted in the usual manner, the corn being soaked in tar-water, and rolled in a mixture of lime and plaster. I had a splendid crop—better than any thing else in the neighborhood. During a dry spell, when other corn was curled by the drouth, this field was green and fresh, and grew vigor-

ously. I measured one average acre, which yielded 83½ bushels of sound shelled corn, besides nearly five bushels of "nubbins." These last were from scattering stalks on spots where there chanced to be a quantity of the deeper subsoil brought to the surface. The best corn was on the part where I had run the plow 12 inches deep during my first experiment. The fact is, the soil was dried out by the drains so early, that it suffered little from the Spring rains, and it was worked so deeply by the subsoil plow, that the roots went down below the effects of the drouth.

You will see by what I have stated, that every acre of this field had cost me about \$21 for draining and subsoiling; but suppose it had cost me twice as much, or \$42 per acre, my extra corn crop would have paid a heavy interest. The average yield on similar fields around me, and on another field of my own, was less than 40 bushels per acre, and I estimated that 40 bushels of corn extra, for the same expense of plowing, planting, and hoeing, would pay a good interest on \$40 an acre, and a whopping interest on the \$21 an acre my field had cost me. These improvements, these deep drains, and deep working of the soil, are for all time, and amount to so much solid investment to pay a round interest in every future year. But to go on with the history of the field.

The corn stubble was plowed under in 1857, and wheat sowed upon it. In the Spring I put on a double dose of clover seed, sowing it upon the frozen ground, on still mornings the last week in March. It took well, and after the wheat was off, the ground was covered with young clover. Though the wheat had no clover sod turned under to feed upon, it showed the good effect of the manure applied to the corn. It bid fair for 35 bushels per acre, as none of it was winter-killed, which I attributed to the fact that the ground was kept free from surface water, by the drains. The midge, however, did some injury, and I only harvested 27 bushels of merchantable wheat per acre. But this was twice as much as the average on other fields in the neighborhood. The early start it got in Spring, by reason of the drainage, pushed the crop partially ahead of the insects.

My clover crop was so good that I concluded to mow it in the Summer of 1859. In the Autumn of that year I let the aftermath or second growth get well up, and then turned it under as deeply as I could do it evenly—intending to sow it to wheat. But the increasing prevalence of the midge rendered the wheat crop a doubtful one, and I let the land lie and freeze over winter, carting on fifteen wagon loads of manure to the acre, while the ground was frozen.

In the Spring of 1860 I spread the manure and plowed it in rather shallow, so as not to greatly disturb the clover sod. My first intention was to plant corn, but the low price of that crop, and the higher price of potatoes, led me to try the latter. I therefore provided about 20 wagon loads of a compost made of rotten manure, leaves, swamp muck, with which 20 bushels of plaster were mixed. This was used in the hill, thus: First, a hole was dug, then a little of the compost put in; then a handful of ashes sprinkled over, and a little soil thrown in for a bed for the potatoes. The manure was not very warm or stimulating, there being more leaves and muck than of yard manure, and I put the ashes on, not only to quicken the manure, but also to neutralize any excess of stimulus which might rot the potatoes, if it is possible for them to rot on such dry, drained land.

This is the whole history of that field from its clearing up to that crop of "big potatoes" made famous by the "dialogue" between neighbor Smith and myself. I did not measure the entire yield last Autumn, but one acre, which was about an average, measured up 318½ bushels of fine, plump, mealy potatoes. As the highest offer for the crop to be taken at the field, was 30 cents a bushel, I piled them in heaps, covering with straw and earth. I hope to realize 37½ to 40 cents per bushel in the Spring.

In concluding this long narrative, given so minutely because you asked it thus, I will say, that I am more and more convinced of the profit, as well as pleasure, of cultivating only so much land as can be thoroughly tilled. The ten-acre field I have described will certainly pay me more clear profit than any two fields along side of it. The wheat, clover, and potato crops, already gathered, prove this; and it stands to reason that it should be so. It has a deeply pulverized soil, with deep drains to always keep it clear of the influences of excessive wetness or dryness. I never pass by the field, or think of it, without a real pleasure, and gratitude to the *Agriculturist*, through whose teachings I have been led to bring it to its present condition. I am at work upon an adjoining field, and shall, as rapidly as possible, treat my whole farm in the same manner. I can make it pay as I go, and if I could not do this, I would sell off enough to raise the means to bring the rest up to the highest fertility. SOLOMON JONES.

How to make Oyster Shell Lime.

The shells of oysters being a very pure carbonate of lime, combined with a little phosphate, and animal matter, are more easily reduced to quick lime, than the stone. The best method is to prepare a kiln especially for the purpose.

The most convenient location for a kiln is upon a side hill, or in the face of a ledge, where the shells can be dumped into the top of the kiln directly from the cart. The forms of lime kilns vary, but the best is that of the frustrum of a cone, (like a sugar loaf with the top cut off,) which permits the ignited mass in the upper part to settle down freely, as the lower part is drawn out. It may be made of any capacity or height, according to the quantity of shells it is desirable to burn at once. If the business is to be carried on extensively, there is economy of fuel in having the kiln large. Any kind of stone or brick may be used for constructing the walls. The thicker and stouter they are made the better they will retain heat. A foundation wall is first raised three or four feet high inclosing the pit, into which the lime falls after it is burned. Some kind of grate must be provided, like the bottom of a coal stove or furnace, for the bottom of the kiln. This is necessary both for draft and for letting down the lime. It matters very little about the finish of the work. A very rough kiln will burn good lime.

In charging the kiln for burning, a layer of brush, dry wood, or charcoal, is put upon the bottom, in sufficient quantity to make a strong fire. Then a layer of oyster shells about a foot thick, then another of any convenient fuel, and so on alternating until the hole is filled. A very thick layer of shells may be put on at the top, as that has to receive all the heat from beneath. Almost any kind of combustible material may be used for burning the shells. In cities the hard coal screenings and dust, that can be had very cheap, are used for this purpose. They make a very powerful heat. On the farm, brush,

old stumps, sods, peat, or any vegetable matter, can be run through the kiln, and add much to the value of the burned shells.

If one does not care to be at the expense of a kiln, he can reduce the shells by burning them in alternate layers, with brush, or wood. This of course will require a great deal more fuel, and is not to be recommended where economy of fuel or labor is desirable. The shells can not be burned so perfectly, but the most of them will become soft, if they do not crumble, and will soon break up in the soil. To burn them in this way, an excavation should be made in a side hill, or where this is not practicable, a circular embankment of sods or earth should be raised three or four feet high, to confine the heat as much as possible. CONNECTICUT.

Manure—Queries, and Answers.

BONES—HORSE MANURE—GUANO—LIME.

J. M. Hazard, Bristol Co., Mass., asks: "Which is the best and most economical: ground bones at \$50 per tun; horse manure at \$5 per cord, to be hauled three miles; or Peruvian guano at \$65 per tun; to be applied to grass land, a dark loam on a sandy subsoil?" Answer—It would cost \$1 more to haul a cord of manure than a tun of guano or bone dust, so that we may call the horse manure \$6 per cord. We then have, say 8½ cords of manure, against one tun of bone dust; and 11 cords against one tun of guano. For all ordinary soils, we should decidedly prefer the horse manure, if of good quality—especially if to be mixed with the soil. When to be spread as a top-dressing on grass land, the case is not so clear. If the manure were pretty well rotted and put on early in Spring or in the Winter, on a surface where it would not be washed off by rain or melting snows, the manure would probably be mostly soaked into the soil. If in an undecomposed state, or applied late in Spring, or during Summer, much of it would be wasted in the air.

In the particular case referred to above, the soil is described as a "dark loam." If this dark color be caused by vegetable mold, and not by metallic salts, it is reasonable to conclude that organic matter is not so much needed as an alkali (lime or ashes), or a stimulant like guano, and the order in which we would place the above manures would be: 1st, guano; 2nd, bone dust; 3rd, horse manure.

The probability is, however, that a dressing of from three to six barrels of lime to the acre, well slaked, and sown broad east, would be quite as effective as any one of the fertilizers named—particularly if the soil be at all inclined to wetness. This opinion is based upon the supposition that the dark colored loam already abounds in organic matter, which would be rendered active by the addition of an alkali. If the soil be quite dry and warm, and still abounds in black vegetable matter, we should try some lime; or try lime and gypsum (plaster), on a part, and on another part try some guano.

The probable best mode of procedure will depend upon the particular condition of the soil, and we can only indicate the items to be taken into consideration in all such cases. To present a general rule for all soils, even those apparently similar, is like offering a "universal pill." It would be a pleasant exercise, and one useful to himself and to others, for Mr. Hazard to try separate plots, side by side, with each of the fertilizers referred to. If this be done, we would like to hear the particulars and the results after a year or two of observation.

Gas Lime—Experience in its Use—Valuable Information.

[The rapid introduction of gas into cities and villages, and the large amount of lime used in purifying the gas, which is offered to farmers at a cheap rate, makes the subject one of no little importance. The constant inquiries received, we have usually answered by forwarding a copy of the *Agriculturist*, Vol. XVII, No. 1, (Jan., 1858,) in which the subject is ably treated by Prof. Johnson of the Yale Agricultural School. We can not better meet the demand for present information, than to republish Prof. Johnson's remarks; to which is also appended an account of some recent experiments by a subscriber in Dracut, Mass.—Ed.]

LETTER FROM PROF. S. W. JOHNSON.

To the Editor of the *American Agriculturist*.

The various contradictory opinions held among practical farmers, with reference to the value of gas lime as a manure, are justified by the extreme variability of its composition. When perfectly fresh from the gas-purifiers, it is in general a rather dangerous application to any growing crops, or in contact with seed. Mr. Solomon Mead, of New-Haven, Ct., informs me that he once applied it in the hill to potatoes, and they never came up. A gentleman in Wallingford, Ct., applied it to grass land and to the roots of peach trees. The trees were destroyed, and the grass severely scorched, so that it did not fairly recover until the ensuing year.

It may be used in the fresh state upon naked fallows, especially when it is desirable to free the soil from slugs, injurious worms, or couch-grass. What its action is upon vermin may be inferred from the fact, that when fresh, it contains a substance (sulphide of calcium) which is the actual ingredient in the depilatories and cosmetics, which are articles employed for removing hair. There is an account of its being thrown into a hog-pen with the intent that the swine should incorporate it with the compost heap. This was effectually accomplished, but at the expense of the bristles and hair of the hogs, which were, in a great measure, removed by the operation.

It is thought, too, that the odor of the coal-tar which is mixed with the gas lime in greater or less quantity, serves to dislodge insects and vermin, and it is sometimes sowed in small quantity over young turnip plants to prevent the attacks of the turnip-fly. In Scotland, it is largely applied to moss-land which it is intended to reclaim.

The quantity of easily soluble matters, (sulphide of calcium, sulphite and hyposulphite of lime,) is so variable, ranging according to analytical data, from $2\frac{1}{2}$ to 15 parts in 100, that we may readily comprehend how some gas limes may be quite harmless if applied in moderate doses even to growing crops, while others, rich in these soluble and deleterious matters, destroy all vegetation.

It has been supposed that fresh gas lime is valuable on account of the ammonia it contains. When the gas-lime is emptied from the purifiers in which it has been exposed to the gas, it has quite a pungent odor of ammonia, but the quantity, though enough to affect the nostrils, is, in reality, quite too small to have any great manuring value, and entirely disappears after a few days' exposure to the air. Mr. Twing, of this Laboratory, found in a specimen of perfectly fresh gas-lime from the New-Haven gas-works, but 8-10ths of one per cent of ammonia. In a gas-lime from the gas-works at Waterbury, Ct., which had been exposed to the air for one week, he found but about 4-100th of one per cent.

Fresh gas-lime may be advantageously used in composting swamp muck, etc.

By full exposure to the atmosphere, as when scattered over fallow-ground, after a time it becomes innocuous. The soluble caustic ingredients are converted into no less valuable a substance than gypsum (plaster), and then, after its odor and bitter burning taste have disappeared, it acts precisely like a mixture of lime and gypsum. How rapidly these changes take place, I have no means of knowing without making actual trial, but should presume that if a dressing of gas-lime be incorporated thoroughly and uniformly with the soil one week, be-

fore sowing or planting, no harm could result to the crop. [One month would be safer.—Ed.]

In conclusion, your correspondent is recommended to use it, if he can get it more cheaply than other lime, at the rate of 50 bushels per acre on heavy soils—or 10 to 20 bushels on light soils—making one application in three or four years. If fresh, it should be put on the bare soil and not on a crop. In case of corn or potatoes, it may be scattered between the rows and worked in at hoeing time. If the gas-lime is white and tasteless after exposure to air for a time, it may be sown like gypsum.

It should be remembered that a wet soil will not be much benefited by lime, nor by any manure, unless in a dry season; and that a light dry soil is soon spoiled by lime unless a good supply of organic matter be maintained in it, by means of stable manure, muck composts, or green manuring. Lime and plaster, too, are at the best, even when they exhibit their most extraordinary effects, but partial fertilizing agents.

S. W. JOHNSON.

EXPERIENCE WITH GAS LIME.

J. A. S., of Dracut, Mass., under date of Jan. 28, 1861, writes to the *American Agriculturist* thus: "...In the Spring of 1859 I bought two barrels of gas lime from the Lowell works, and tried a portion upon a row of early potatoes, beside another of the same kind without any gas lime. One half of each row I set with sprouts. I could perceive no difference at digging, except that the sprouts were a little later than the rest. The gas lime had no apparent effect. On the 7th of June of the same year, I scattered the remaining $4\frac{1}{2}$ bushels broadcast, before plowing, upon $\frac{1}{2}$ acre of potatoes on rather wet land, by the side of another $\frac{1}{2}$ acre of land, a portion of which was, perhaps, a very little dryer. About a dozen hills came up on the gas limed part, but these afterwards succumbed. Those without lime came up finely, progressed rapidly, and, with the exception of a few rows, gave a fair return, considering the late planting. The seed was a late variety. You wish us to give failures as well as successes. That was my failure.

Last Spring, a neighbor thought he would try it, as it only cost two cents a bushel; so he turned over his sod, and put from one to two quarts of the stuff in each hill, covered it slightly with dirt, and planted his potatoes. The corner where the gas lime was buried could be easily distinguished a quarter of a mile off, it being perfectly bare. The potatoes are yet to appear above ground.

Again, in the Fall of 1859, having suffered some weeds to go to seed by the side of a wall, and seeing the effects of the gas lime on my potatoes, I applied a barrel of it, fresh from the works, upon about 800 square feet, and let it remain on the surface all Winter. Very early in the Spring I harrowed it in, then turned it under, and sowed rye for soiling. The rye appeared earlier, was of a deeper green, headed out five days sooner, and was six inches taller than that by its side not treated in this manner. I afterwards plowed again and put in corn fodder. The fodder was decidedly "yallar," though I was very sure I did not sow the yellow kind, and though it appeared earlier than the rest, it grew to be only about eight inches high! There were but few weeds, however, on that part.

Again, I composted it with muck and horse manure, using lots of muck, and gave a liberal dressing to a plot where I wished to start cabbages for transplanting. They were very strong, thrifty plants, and I noticed when I transplanted them, that where there was a lump of gas lime and muck, the cabbage roots were woven round it, taking it up with them. (By the way,

250 plants which I *put* in a liquid of home-made guano never flagged, though the sun came out immediately after setting out; and moreover, they paid me twice over for my extra pains. I begin to see how valuable cabbages are for stock, now that the 2000 heads I raised between my early potatoes and peas are gone, and I only regret that I have not 2000 more.)

My experience with cut worms has not been quite as disastrous as some of your correspondents, thanks to hints from you. I put in plenty of seed and to spare, according to the advice of the *Agriculturist*, and at the first hoeing I kept a good watch for the cut worm, both where a spear was wilted, and every where else. Scarcely a hill did not have at least one. I searched till I found him if a stem was cut, and taking him on my hoe, with or without dirt, as it happened, and with the sole of my boot made him disgorge forcibly. I thought, as I crushed each one, that he, at least, would neither trouble my corn again, nor produce progeny for another year's supply. They disappeared suddenly. Where they went to, or what form they assumed, I can not tell, but would much like to know.

My conclusions upon the subject of gas lime I give for what they are worth, though being a novice, and my experiments imperfect, I speak with diffidence, yet hoping that my "one item," when taken in connection with others you may receive, may be of use to you at some time, and consequently to myself. To cabbages and rye it did seem to be a benefit. Applied to corn in any manner, I have been informed, it is injurious, and I think it would be much the safest mode to compost it with a goodly quantity of muck, and perhaps muck and manure. In that manner it gave me the best returns. But whether its value, according to cost, is greater than stone lime, to compost with muck, of which I have an inexhaustible supply, I would much like to know.

REMARKS.—A careful study of what Prof. Johnson says, will, in part, explain the results with J. A. S., and the contrary experiences of many others. The crude or fresh lime from the works is poisonous. After thorough composting with muck, or after sufficient exposure to the air, and especially to frosts, on the surface of fallow or plowed ground, it loses its noxious properties, and is then probably quite as valuable as common lime, owing to the amount of gypsum formed by its decomposition.—Ed.]

Coal Ashes.

To the Editor of the *American Agriculturist*:

What to do with coal ashes, was with me a very important matter. A friend suggested, after sifting them, to spread them on my stable floor, under the bedding. This I did, and by removing them every few days, I have prevented the escape of the ammonia and preserved that. All the moisture is absorbed, and my stable is sweet and clean. The coarse cinders, etc., I use for walks. Can any of your readers suggest a better disposal of them?—C. C. [Unless plenty of muck is used for bedding, we would not advise mixing any kind of ashes with manure in the stable. The alkali of the ashes will hasten the fermentation, and promote the escape of valuable ammonia. Better spread the ashes directly upon the soil.—Ed.]

The greatest pleasure of life is love; the greatest treasure, contentment; the greatest possession, health; the greatest ease, sleep; and the best medicine, a true and faithful friend.

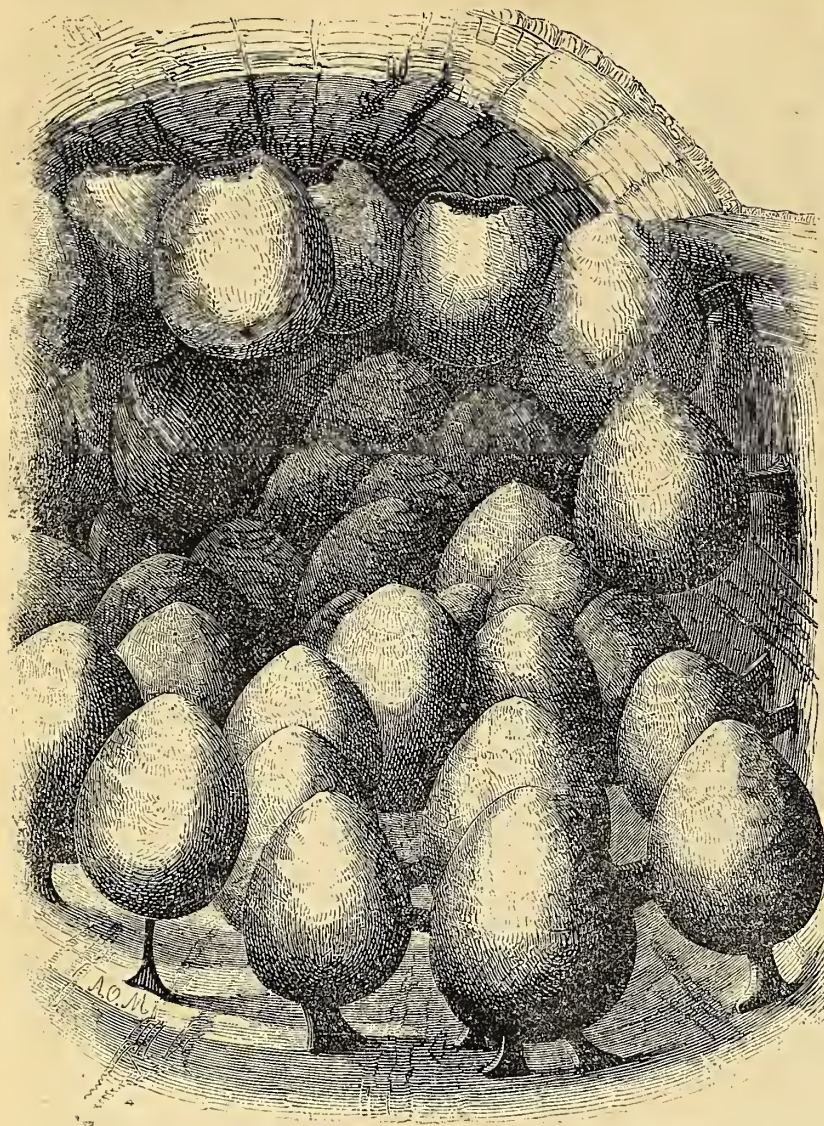


Fig. 1—HONEY CELLS OF THE JICOTE, OR STINGLESS BEE.

Stingless Bees of Central America.

[Those who chanced to call at the Office of the *American Agriculturist* in August last, had the pleasure of seeing two short logs, say 3½ feet long and 10 to 12 inches in diameter, from an aperture in which there were issuing two kinds of bees, somewhat like our common bees in general form, but differing in size and color, one of the varieties being nearly as large as our bees, and the other hardly a fourth the size. From what we saw of them and learned of their history and their habits in their native country, we incline to the opinion that they may yet be introduced into our country, at least into the Southern or warmer portions of it, and perhaps prove a great acquisition. Aside from their practical utility, they are interesting at least, and at our request, Mr. A. O. Moore, who brought these specimens, and who observed them somewhat extensively in their native locality, has prepared for the *Agriculturist* the following notes and the accompanying engravings—Ed.]

The sting of the bee has been considered an admirable contrivance, by which a weak and otherwise defenceless creature is enabled to guard from theft the sweet stores nature has entrusted to her; but there are thousands of persons constitutionally nervous or sensitive to the effects of a sting, who would hail with pleasure an improvement in bee-culture whereby they might enjoy the sweets of the hive without its stings, and study its wonders without the danger of the excruciating wounds which

in color; yellow, brown, and black; black, with yellow legs, and yellow, with black legs. Some have stings too, but generally they are without. Some have a deliciously flavored, sweet honey; while that of others contains so much acid that, when mixed with water, it forms a refreshing drink very much like lemonade. In some places I found a stingless black variety that frequented the houses just as our flies do—which they closely resemble, except that they have the good sense to go to their own homes when they have secured a "pocketful," and do not lodge upon the walls and furniture. The quantity of honey varies with the size of the bee, and the number in a colony. The smallest, produce only a teacupful in a year, while the largest produce from six to fourteen bottles of 2½ lbs. each. As far as my observations have extended, however, they all resemble each other in their general habits and method of forming their brood cells and honey receptacles, and in these particulars differ very essentially from our bees, which, as is well known, build their brood cells of wax; what is termed

are so severely inflicted, on the uninitiated at least, by the little community honored by the investigation. — Whether or not it is among future possibilities, that we of this rigorous climate shall ever be able to enjoy this beekeepers' millennium, it is interesting to know that in Central America, the forests everywhere, from the torrid sands of the seashore, to the colder mountain regions at least 3,000 feet above the sea, abound with stingless bees of many varieties, which have been domesticated by the people, and produce honey of excellent quality, and in considerable quantities. The honey producing bees indigenous to that country, vary in size from the small yellow bee shown in fig. 8, to that in fig. 6, which is nearly as large as our common bee. They vary, too,

the comb, being a double tier of hexagonal tubes. The exception to this is in the cells intended for rearing the Queens or females. These are somewhat irregularly egg-shaped. In the regular "comb" there are cells of two sizes, the smaller intended for the neuters or workers, the larger for the drones or males. The receptacles for honey are not different from the brood cells. The drone cells are generally elongated and used for the honey. In all these particulars the Central American bee is of different habits, as will be seen by the accompanying drawings, which, excepting Figs. 7, 8, and 9, were made from the largest variety I found, and the one most valued for the quality and quantity of its honey. In Costa Rica and Nicaragua, this variety is called *Jicote* (pronounced *hee-co-ty*). Passing through San Salvador, going northward, this variety was nowhere to be seen; but in Guatemala, it reappeared in



Fig. 2.

great abundance, and is there called "*Colmena grande*," which merely means the large bee. The general character of the interior arrangements of all these bees is the same, the smaller bees having brood cells and honey receptacles of a correspondingly small size; so that these drawings and descriptions will give the characteristics of all, at least of those which inhabit the cavities of trees.

First, then, the brood-cells differ from those of our bee, in being arranged in single rows (see Fig. 3), but in tiers one above the other, having a space between the rows for the passage of the bees. They are less distinctly hexagonal, being nearly circular, formed in part of a paper like substance, but strengthened and supported by wax, and the entrance to each cell is closed by a wax "cap" during the transformation of the chrysalis. Enveloping the entire nursery department, are galleries formed of thin sheets of wax, which, in our engraving, are removed partially to give a peep into their domestic arrangements. Two of the cells are opened so as to show the young imperfect bee within. The cells intended for rearing the Queens are larger than the others, and one is shown attached to a piece of brood comb in fig. 2. This, however, was taken from the hive of a smaller variety than those in fig. 3. I was unable to find any variation in the size of the bees, or of the brood cells, which would indicate the existence of three classes of bees, males, neuters, and females; and I feel convinced that the workers of the hive are males, and that probably the neuters or undeveloped females are wanting. Further investigations may, however, decide this question differently.

The honey receptacles present still greater differences as compared with those of our bee. Fig. 1, represents the interior of a log in which are a num-

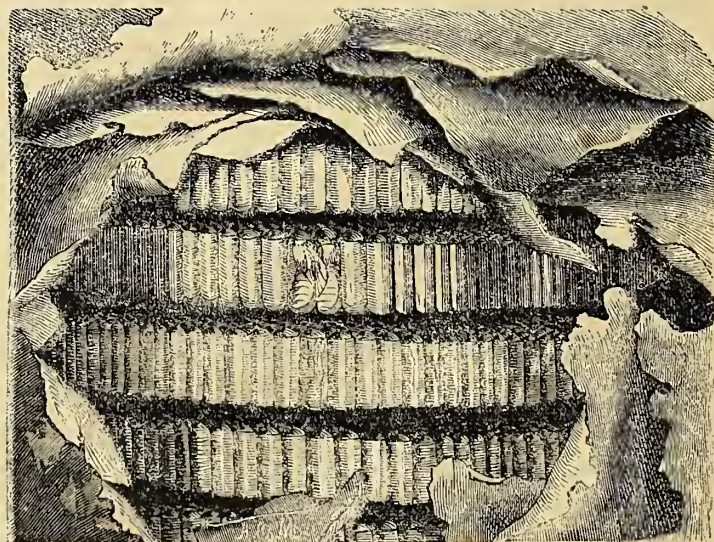


Fig. 3—BROOD CELLS OF THE JICOTE.

ber of these honey cells of about the natural size. They are composed of a dark colored wax, somewhat less solid than that of our bees, and are sup-

ported by footstalks, also of wax, though in some cases they are attached directly to each other, and to the log by their sides.* They are hollow and have very thin walls, as will be seen in some of the upper cells which are broken, and they are filled with as pure and finely flavored honey as I have ever tasted. Only the new product of our bees called "virgin comb honey" can be compared to it. There is, however, a tendency in this honey to crystallize within a few weeks after removing it from the natural cell, so that in a bottle which has stood for a long time, one half the contents will be a hard mass of sugar. Whether this can be obviated by any process, I had no opportunity of learning. The wax, too, is inferior to ours for most purposes, as it is not so hard, nor is it capable of being bleached so white. It is used, however, for candles of an inferior quality. The people of Central America, being almost universally Catholics, use a large number of wax candles in the ceremonies, processions, etc., of that sect. The foreign or white wax is therefore in great demand for this purpose, and brings the very high price of one dollar per pound, so that in Guatemala, where I found the foreign bee successfully kept, the honey was of much less consequence than the wax, though from one hundred to one hundred and fifty pounds of honey is there not an unusual annual yield by a single swarm of European bees.

One curious fact given me by the largest apiarian of foreign bees, is that the "large bees" of that country, although not so large as the foreign insects, nor armed with stings, yet destroy the latter, so that the two can not be kept near each other. In their native country too, I could hear of no trouble



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

to these bees from other insects, though stinging wasps and bees abound there. Some of these large egg-shaped cells are filled with a moist, granular, dark yellow substance that seemed to be mostly composed of the pollen of flowers which no doubt is the food for the young. All the crevices by which the domicile would be exposed, are filled by a cement composed mostly of sand, which becomes almost as hard as sand-stone. Sometimes this is found in very large quantities, considering the size and numbers of the insect.

Figs. 4 and 5, represent, in different positions, the queen of the *Tecote* variety; and fig. 6, one of the workers. Fig. 7, is the queen of a small yellow variety called "*Maria Seco*," and fig. 8, is the worker of the same. The queens, it will be seen, have the abdomen very much enlarged, and the wings are very small, and seem generally to be jagged and broken at their margins. It is with slow and awkward movement that she passes about the cells, and it is utterly impossible for her to fly, at least after she is in a condition to furnish the colony with eggs. From this, the inference is clear, that if they ever swarm as do our bees, the old queen remains in the original home, and the young queen goes to seek a new one, either before or soon after her impregna-

tion, and before her form becomes so much enlarged. I could not learn however, that these bees ever "swarm." One man, who had only one colony which had hung in the same spot, yielding an an-



Fig. 9—CENTRAL AMERICAN APIARY.

usual supply of honey, for over thirty years, never had heard of such a process, nor had he ever increased his stock. When an increase in the number of colonies is desired, a box or hollow log is hung near to the old one, and a few pieces of brood comb containing young bees are placed in it. The bees soon discover the unprotected orphans and depute a portion of their population to nurse them. In the course of a few weeks the new hive may be removed to any distance, having probably in this time been supplied with a new queen from the old hive. How they multiply in their wild or native state, I could not form a certain opinion.

A *Central American Apiary* is a novel sight, and usually consists of from five to fifty logs hung up under the eaves of their thatched huts, as represented in fig. 9. These logs are generally brought from the woods, with the bees already in them, and receive no further attention from their owners than the taking away of the honey once or twice a year. This is done by removing the material, (wood or clay,) with which the ends of the log have been closed, and inserting the hand; the honey cells are crushed, and the honey runs out of the end of the log into a vessel, and after being strained of any impurities, is bottled for use. In other cases, the log is so divided that it can be opened more thoroughly, and these pretty honey cells removed unbroken and placed upon the table; but this is, a refinement not much practiced. The annual yield per hive or log is from 6 to 14 bottles of strained honey, each bottle containing about 2½ lbs., and is worth from 20 to 30 cents, at retail.

On my recent return to New-York, from that country, I brought with me two of these varieties, with a faint hope that they might withstand the climate of at least the southern portion of the United States. After a few weeks exhibition in the office of the *American Agriculturist*, they were placed in the hands of the Agricultural department of the U. S. Patent Office, and by them turned over to the care of Mr. Samuel B. Parsons, of Flushing, L. I., who immediately removed them from the original logs in which they were brought, placing them in what, to human eyes at least, seemed more comfortable quarters. The report, however, is, that on the first approach of cold weather, the bees were all found to be dead. That under different circumstances, or with a more extensive experiment, (I brought only two colonies,) any better result would be reached, I can not very strongly hope; but if any one has an opportunity and a wish to import these bees, I would advise that they be sent to Florida, or some of the most Southern States, and kept with as little disturbance as possible in their native logs. If they survive for a year, they can then be propagated by division, as above described, or if thought best removed to an observing hive. I found that they may be transported

with almost perfect security by the ordinary methods of conveyance. Mine were first brought fifty miles on the back of an Indian, then placed on a springless ox-cart, then by steamer, exposed on deck to sun and rain, and by railroad over the Isthmus, and again by steamer to New-York, where they immediately recommenced work, flying out boldly over the roofs, and returning safely to their new location. This is certainly in favorable contrast with the numerous attempts that have been made to bring from Europe the Italian variety of our honey-bee.

Are Movable Frame Hives Best?

The Bees will, in a few weeks, be on the move for new quarters, and hives of the most commodious kinds should be in readiness for their reception. It is not proposed to inquire now whose patent contrivance is best suited for the bees and their keepers, but to notice simply the advantages claimed for movable frames, as these devices constitute the radical difference between a large class of recently invented hives, and the old fashioned plain box.

M. M. Baldridge, Niagara Co., N. Y., an experienced apiarian, states the case substantially thus: The movable frame hives may be made so as to cost but about twenty cents more each, than the common kind. Bees can be hived in them as readily as in the others; and, supposing they are to be taken up in the usual manner in the Fall, by destroying them with sulphur, the frames in no way interfere with the process. When this is done, it usually occurs that some of the combs last used for breeding purposes, (commonly the central ones,) contain but little honey, sometimes considerable bee-bread. In general, the amount of such comb will equal at least what two ordinary sized movable frames will contain. This comb, melted down for the wax it contains, is worth but a trifle. But when preserved in proper shape for use another year, as it may be by employing the frame, its value can not be less than twenty cents, the extra cost of adding the frames to the hive. Thus, then, the frame hives are at least worth as much as the others, and any further advantages must be in favor of the former. When the bees are destroyed, the frames containing the combs can be removed without breaking the mass, and making a general "muss," with more or less of waste, as occurs in removing combs from the ordinary hive. The above would be sufficient, in Mr. B.'s judgment, to determine the desirableness of the improved hive, for even those whose knowledge and care of bees is of the most limited extent, simply letting them alone after hiving, and destroying them in the Fall, for the honey. The more skillful apiarian, it is claimed, will find many more advantages not necessary to enumerate here.

To Destroy Potato Bugs.

In answer to a request in the last No. of the *American Agriculturist*, for practical information how to get rid of this insect, Mr. James M. Allen, Green Co., Ill., writes: Place a layer of dry straw beside the patch, or, if the plot be large, lay straw between every sixth and seventh rows. Pass over the field, and with a branch, or other suitable instrument, drive the bugs into the straw. Now take a large bundle of straw, set one end of it on fire, and pass the blaze rapidly along the row of straw: the bugs will be destroyed. Repeat the process as often as they become troublesome. [This may answer, provided, the bugs can be driven into the straw. The experiment is easily tried.—Ed.]

For the American Agriculturist.

Starting an Apiary—How to Procure Bees.

In starting an apiary it is of the utmost importance to commence right. To do this the following rules should be carefully observed.

First—Select colonies if possible, in frame hives. I prefer Mr. Langstroth's.

Second—The best colonies to procure in Spring, are second swarms of the preceding year, provided the hives be full or nearly full of combs. They are the best, because if not queenless, each has a young queen. Queens generally lose their fertility after the third or fourth year; the younger the queen, the more prolific she is, hence the more profitable the colony will prove to the owner. Again, the combs are not as liable as older colonies to be filled with a superabundance of bee-bread. In frame hives, this excess of bee-bread may readily be taken away, so that by their use this objection is partially removed.

"First" swarms of the preceding year should generally be rejected by the inexperienced, whenever "second" swarms may be obtained, as the age of the queen can not always be ascertained—the first swarm from a hive being always accompanied—save one exception—by an old queen—usually at least one year old.

Old stocks should not be selected whenever either of the above classes can be procured, as the combs may be moldy, or filled with an excess of bee-bread. However, stocks not over two years old, being free from disease or foul brood, which have cast swarms the preceding year, and whose combs are bright, make very good stock hives. You may have to pay more for "second swarms" than for either of the other classes enumerated; they will, however, be found the cheapest in the end.

Third—Make a thorough examination of the selected colonies. After a little experience this need not require over 10 or 15 minutes. Take a piece of cotton cloth about ten inches square, and spread over it a thin layer of tobacco—smoking or chewing—then commence on one side of the cloth and roll it together, and sew or tie it in a roll. Punk, or partially decayed maple-wood will answer as well. Set one end of the punk, or roll, on fire—do not let it blaze. Blow a little smoke first into the entrance of the hive—the bees will retreat among the combs and fill their sacs with honey, when they are always peaceable. Remove the top cover, and blow a little more smoke into or through the slots, or holes, of the honey-board. The honey-board should now be removed and the frames of comb lifted out separately, and carefully inspected. The condition of a "good, healthy" colony should be as follows: 1st. At least eight frames of combs (there are ten frames in the Langstroth hive which I use) should be for rearing workers, which may be known by the size of the cells—the small cells being for the workers, the large cells for the drones or male bees. Unless the majority of the combs be suitable for rearing the workers, the colony is of but little value.—2nd. The combs should not be in the least moldy; on the contrary, they should present a bright appearance, especially such as have not been bred in.—3rd. The colony should be perfectly free from disease. This may be ascertained generally by removing the lids of sealed brood. If any brood be found in a putrid state, which emits an offensive scent, the colony is usually diseased. Better not select even apparently healthy colonies from apiaries in which "foul brood" has made its appearance.—4th. The hive should be well supplied with bees;

also with brood combs in all stages of development, which, even though the queen be not seen during the operation—is a pretty sure indication of her presence. Thus examine all of the selected colonies, and if any be found that fail to meet the standard, reject them. A few good, healthy colonies to commence with, are far better than a large number of poor, or diseased ones.

If the colonies be in common "surplus box hives," the hives should be inverted for examination. The condition of the bottoms of the combs may thus be ascertained by driving the bees away from them by smoke, and if you are pretty good at guessing, you may possibly guess correctly respecting the condition of the combs further down. Do not select such hives simply because they have an abundance of honey. The less honey in box hives in the Spring, provided the bees have enough—say from 10 to 15 pounds—the better. The combs should be regular or straight, that they may be more suitable, should you wish to transfer them to frame hives; there should also be a majority of the "worker" class.

Mode of Transporting.—An elastic spring wagon is the best conveyance. The entrances of the movable frame hives may be closed to confine the bees, by tacking over each of them a narrow strip of wire cloth or gauze. The slots, or holes in the honey-board, should be uncovered, that the bees may have access to the honey chamber if necessary. The hives thus prepared may now be set into the wagon in their natural position. Box hives should be inverted while carrying them in the wagon. The bottoms may be covered by laying a sheet over each, which should be so secured that no bees can escape; provision for ventilation should be made. The vehicle should not be driven faster than a walk.

M. M. BALDRIDGE.

Niagara Co., N. Y.

How Iowa Boys Raised Corn.

Mr. Jas. Bruce, Des Moines Co., Iowa, writes that last season the following premiums were offered by Charles Dunham, Esq., Editor of the "Burlington Hawkeye," viz:

1st. For the greatest yield of corn raised on one acre by a boy not over 17 years old, a Medal worth \$10.

2d. A fine engraving in gilt frame, or a \$5 daguerreotype, to the boy obtaining the second largest crop from an acre.

3d. To all bona-fide competitors a copy of the Weekly "Hawkeye" gratis for one year. In each case all the work to be done by the boy.

Lawrence H. C. Bruce, aged 16 years, was awarded the first premium, having raised 117½ bushels; and David R. Bruce, aged 14, took one of the third premiums: he raised 110½ bushels.

The ground for the above was broken up 14 inches deep, May 10th and 11th; thoroughly harrowed, and furrowed 3½ feet, by 3 feet 9 inches; corn dropped by hand from 3 to 5 grains to the hill, and covered about 3 inches deep with a one-horse, double shovel plow with roller attached. In cultivating, L. H. C. Bruce plowed his plot five times: first and second times with a double-shovel plow, twice in a row; third time with a tri-shovel cultivator, fourth and fifth plowings with a double-shovel as at first; each time stirring the ground as deeply as possible.

David R. Bruce plowed, planted, and cultivated his in all respects as the other, only instead of using the double-shovel and cultivator, the single-shovel and a mole plow were used, finishing by ridging up to the corn.

In producing the crop no manure or fertilizer of any kind was used. The land is level prairie, bordering on timber; has been in cultivation six years with corn and wheat alternately.

Mr. B. says the boys learned the theory of deep cultivation from the *American Agriculturist*.

The Wheat and Chess Question.

It may be well to repeat, for the benefit of 30,000 to 40,000 new readers, that we last year offered a reward of \$500 to any person who would demonstrate by a series of well conducted experiments, that wheat will turn to chess. This offer has called out a great number of letters on the subject, some giving notice that the writers will be prepared in due time to claim the premium; with many others detailing experience in the past. We can not, of course, publish these letters without giving up the whole paper to the subject. Here are a couple of examples similar to many others: John Plotter, of Green Bay, Wis., writes that last year he cleared a forest and sowed it to oats, June 14. The oats grew finely, but were struck with rust before ripening. A subsequent rain washed off the rust, and he had a good yield of fodder. Sept. 6th he sowed wheat, which was somewhat damaged by frost, but it recovered finely, owing to the splendid Spring weather. The crop grew so vigorously that it was a pleasure to look at the field. But to his surprise, at harvest, most of the expected wheat proved to be chess, especially along the border of the forest; on the higher ground away from the forest, the wheat was beautiful, yielding from 35 to 40 bushels per acre. Mr. P. is sure that his wheat seed was good and clean; and no weeds came up on the field.

Another subscriber writes from Louisville, Kentucky, that in 1858 he had a few acres of very fine wheat, that, when nearly ripe, was almost destroyed by a storm, so that it could not be harvested clean. In the fall there was a growth of wheat on the ground as thick as if four bushels of seed had been sown. The land being in good order, he let the volunteer crop grow, and expected a second good harvest. But when nearly ripe, he discovered that it was all chess! He thinks he could have threshed 10 bushels per acre of chess, and there was not a single head of wheat on the field!—Again, year before last, the swine broke into one of his wheat fields and spoiled a part of it, so that it was not harvested. Last year a crop of chess appeared, and the plot of chess just covered the ground where the swine spoiled the wheat, and extended no further.

The above are staggering cases, and not having witnessed the fields or studied their previous culture and surroundings, we shall not attempt to explain the phenomena. But there must have been some cause for the appearance of the chess other than the transmutation of the wheat. If wheat can turn into or produce chess under any circumstances, then all scientific observations on the "permanence of species" must be sadly at fault. We are still positive that without miraculous interposition, without an absolute variation from fixed natural laws, it is not possible for a grain of wheat to produce a head of chess. We will only repeat, that we will very cheerfully pay the \$500 offered, if any one will ascertain by a succession of experiments, any process or combination of circumstances, by which such transmutation can be brought about. Of course if it can be done once, the experiment can be repeated. Let those who believe the transmu-

tation possible, experiment and learn *how* the change can be produced. It will then be easy to repeat the experiment under circumstances which will leave no doubt. If any one succeeds in conclusively proving to the world that wheat will turn into chess, he will not only receive the reward offered, for his labor, but his name will become famous. He will upset one of the laws assigned to nature, and held to be immutable, by all scientific naturalists.

For the American Agriculturist.

Tim Bunker on Seed.

"Where you get de seed of dem big beets you raise last year, Massa Bunker?" said Jim Baker to me this morning. "Never seed sich beets down South in all my life. Reckon dey come from Africa, or somewhere dey git up airly in de morning."

"No, Jim, I got them from New-York, where they lie abed badly in the morning, I am sorry to say. Half of them don't get their breakfast till nine o'clock."

"Can't be, Massa. Must have come from some place close by sunrise, or dey never growed so big. I watch 'em last Summer, and I declare fur sartin, I tho't dey never would stop growin."

Jim Baker, though he has been with us but two or three years, is one of the institutions of Hookertown, as much so as Mr. Spooner, or the school master. He was liberated by his master, a few years ago, with all the rest of the negroes upon the estate, and sent out to Liberia. He had made himself useful upon the plantation as cooper, in preparing sugar and molasses casks. He went out to Liberia, with rather elevated notions of that land of promise, and of the freedom he was there to enjoy. Feeling rather above digging for a living, and not finding much demand for a cooper's labors in that new country, he became homesick, and took the first vessel bound for the States. Some of his shipmates hailed from this place, and Jim brought up here, and considers himself settled for life. He takes naturally to gardening, and often excites the envy of Jake Frink, by beating him on garden *sauce*, and a rude kind of joking, which Jake calls "*sassy*." Jim takes note of all the best gardens, as he goes round doing odd jobs among the villagers, and is an appreciative beggar of good seeds. He turns up the white of his eyes at an extra sized patch of onions, and if he can not get a dozen of the bulbs to set out, he wants just a pinch of the seed to plant. With his hat under his arm, and that deferential air which marks the well bred servant, he is pretty sure to get what he wants. "Nebber could see Massa Bunker, what's the use planting poor seed. Sartin to git jist what you plant."

Jim's philosophy, and Jake Frink's, do not belong to the same school. Jake thinks a seed is a seed, just as a cow is a cow, whether she is a skeleton, or have five hundred weight of beef laid in between her skin and bones. Jake has no idea but what old seeds are just as good as any, and so he keeps his old stock on hand from year to year. He has an old basket in his pantry for this purpose, and there you will find seeds of the cucumber, squash, pepper, corn, beans, onion, cabbage, turnip, nasturtium, and a little of every thing else that ever grew in his garden. They have no labels, and there is no means of ascertaining the age of any package in the basket. Some he has begged, a few he has bought, but the most he has raised upon his own premises in that slipshod way that marks every thing about the establishment, and which

has long since passed into a proverb. If you were to say a thing looked *frinky*, every man in Hookertown would know just what you meant.

The last three or four cabbage stumps, or turnips, he happens to have left in the Spring, are set out without any regard to quality or variety. So his cabbage is neither early York, nor Drum-head, Red Dutch, nor Savoy, but a mongrel stock, showing streaks of every thing he has raised. His turnips and other tap-roots follow the same law, for they have all been cultivated upon the same system. Jake has no idea of the mixing of varieties in the blossom, or of their running down by bad cultivation.

With Jim Baker, a seed is not a seed. "Tell you what Massa Bunker, every ting 'pends on what you plant. Iniquities of de faders visited on de children, and no mistake." Jim lives up to his philosophy, as a good many people who talk more, do not. The best beets are selected, and planted in good rich soil, and the seeds are carefully labeled and put away where they can be found in planting time. Dinah clears out the old basket every Fall, and nothing but the seeds of the squashes, and other vines, are allowed to remain over a second year.

I raise but few seeds myself, because I have found it better economy to buy such as I want at the large agricultural warehouses in the city. As a rule, the men who devote their time to raising seeds, will get a better article than those who have other business constantly upon their hands. Their success in business depends upon their fidelity, and they are generally careful to give the public a good article. Well established firms in the city have extensive arrangements with seed growers in all parts of this country and of Europe, to furnish the best articles in their respective lines of business. If I want twenty varieties of garden seeds, it is much less trouble to send an order for them by express, than it is to try to raise them, and take care of them.

This month I always lay in my stock of seeds, the best varieties, and enough of them. I know just how much ground I am going to plant in each crop, and can tell within a few ounces of the quantity I shall need of each variety. If it is put off till planting time, when every thing is in a hurry, the best time for planting often goes by before you are ready, and you get only a partial crop. The best investments I have ever made in a small way, have been in this article. Take particular notice. Never buy cheap seed.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, Feb., 1861.

Hints on Starting Garden Plants Early in Spring.

Various methods may be resorted to for procuring early vegetables and flowers, in all climates, and especially in the colder regions of the most Northern States, and of the British Provinces, as well as for securing the growth of those plants which will not ordinarily mature where the season is very short. Green-houses, hot-beds, and cold frames, are the most desirable, and these are destined to come into more extensive use, when people generally learn how simple, cheap, and valuable they are. Of these we speak from time to time; here we will only refer to one or two methods that may be adopted by all.

First, let it be remembered, that a soil deeply dug and thoroughly drained, is in a condition to

receive seeds or plants much earlier than an ordinary soil, no matter how dry it may be. A free admixture of fermenting manure, like that from the horse stable, also tends to warm the soil.

The smaller seeds, lettuce, cabbage, cauliflower, turnips, tomatoes, many of the flower seeds, etc., may well be sown in cheap earthen pots, or in boxes of earth. These boxes, if water-tight, should have gimlet holes in the bottom to drain off excess of water; an over dose of water with no drainage, will often stop or greatly retard the growth. Though not indispensable, it is always preferable to water at the bottom, letting only so much soak in as will naturally rise by capillary attraction. While the weather remains cold during the day, these boxes or pots may be kept in a warm light cellar, or better still, in a room slightly warmed by fire heat. But as soon as the out-door temperature during the day is above the freezing point, they should be left out in the sun, and only be brought in at night when there is a prospect of frost. It answers very well to leave them on the South side of a barn during the day, and remove them to the barn floor at night, covering with straw if needed to keep out frost. By a very little care of this kind any one may have an abundant supply of plants, ready to be transferred to the open ground when danger of frost is past.

Another method which has been highly commended by some, is this: Cut turf or grass sods into square blocks, or in long pieces; if grass sods, pare off a little of the grass side. Invert the pieces and plant in them various seeds, such as cabbage, lettuce, cucumbers, melons, corn, turnips, radishes, indeed any thing which is desired to grow early. These can be laid closely together on the south side of the house, or barn, taking care to apply, from time to time, just water enough to keep them barely moist. On cold nights they can be covered with old carpeting, or blankets, and straw, until the plants begin to appear, after which the pieces should be temporarily removed to the cellar whenever there is danger of frost. As soon as the condition of the soil and weather renders it safe, the sods or turf may be cut into small pieces, each one containing one or more growing plants, and then set them into the open ground. There is a double advantage in this process: a gain of one to three weeks in time is secured, and the sod or turf is an excellent material for promoting future growth and fertility. Any one who will try this method for a single season, will not be likely to omit it afterwards. Three or four hours of time expended in this way, will secure a considerable supply of extra early products of various kinds.

Those who have a few old baskets will find the following plan a good one: Put into the baskets a quantity of good soil, with rotten chips, with or without some well rotted manure, as may be needed by the soil used. Plant in each basket a few melon, cucumber, squash, or pumpkin seeds. The baskets can be carried in or out according to the state of the weather. After the plants are in vigorous growth, and the weather suitable, set the baskets in the soil, one in a hill, without disturbing the contents. If the sides and bottoms of the baskets be not pretty open, a number of holes should be punched through. The roots will find their way out into the surrounding soil. By starting early, so as to have large vigorous plants growing in the baskets of earth by the time the weather is settled, you may have cucumbers ready for the table almost as soon as other people have plants coming up, and melons and other products proportionately early.

What is the Value of Carrots?

To the Editor of the American Agriculturist.

This question "being still before the meeting," I respectfully submit my views. I have raised this root for feeding purposes for eight years, and have never sold my surplus crop for less than twenty five cents a bushel. I consider it the best of all roots for horses, and next to the sugar beet as a feed for milch cows. I feed daily from four quarts to a peck, with two quarts of Indian meal, or of oats, with as much cut hay as the horse can eat. More or less roots are given according to the amount of work done. The horse keeps in better condition on this feed, than when fed exclusively with hay and oats. They give a gloss to the skin which I have never noticed with any other feed that I have tried.

I also used them for milch cows until I raised the sugar beet, which I find to yield more largely than the carrot, and to increase the flow of milk. Carrots improve the quality of milk, but do not add so much to its quantity as some other roots. They are excellent for store pigs, and for young cattle, and answer so well for all kinds of stock, that I am extending the cultivation of them every year. They are also growing in favor with my neighbors, and I find no difficulty in disposing of all my surplus crop to livery stable keepers, and gentlemen who keep horses. I have grown them at the rate of twelve hundred bushels to the acre, and at a cost of ten cents a bushel. A neighbor raised four hundred bushels in his garden, the past season, at the rate of over 2000 bushels to the acre.

In the onion growing districts of Rhode Island and Connecticut, it is quite common to raise them as a succession crop, with onions, sowing the carrots between the onions in June. With heavy manuring, this gives very large returns. The carrots are loaded in sloops, and sold in the seaport towns along the Sound, at about eighteen cents a bushel at wholesale.

The value of the root is pretty well established in the minds of men who have tried it for feeding. John Merrill, of South Lee, Mass., raises them at the rate of 600 bushels to the acre, and at a cost of four cents a bushel, exclusive of the manure. He considers 100 bushels of oats and 100 bushels of carrots, worth as much as 200 bushels of oats to feed to team horses.

J. C. Curwen, of England, after two years' experiment with eighty horses used on the farm and in coal mines, came to the conclusion that carrots were worth as much, pound for pound, as oats, and that an acre in carrots, supplies as much food for working horses as 16 acres of oats.

According to Josiah Quincy's experience, at Quincy, Mass., charging labor at one dollar a day, it costs eleven cents a bushel to raise carrots. Some other experimenters put them at nine cents a bushel. This is upon the supposition that the hoe is used in weeding. With horse cultivation, this expense might be reduced

more than half. With the requisite skill, carrots can be grown and put in the root bin, ready for use, at seven cents a bushel. The white Belgian last year yielded at least 20 per cent. more than the Altringham. I consider carrots well worth \$12 a tun for horse feed, and should be willing to give that if I could not get them cheaper. At the same time, I should think them well sold at \$10 a tun. They would pay much better than grain crops at that price.

CONNECTICUT.

For the American Agriculturist.

Shanghai Creepers—Experiments in Fowl Breeding.

Among the Asiatic fowls, the Shanghais have occupied a prominent position; it was the Shanghais which created such a furor in hen-dom a few years ago, and it was the Shanghais on which the bubble burst. They have never been favorites with us; we have always considered them the most unsightly birds ever introduced into the poultry yard. There is, to be



sure, considerable difference in the fowls called Shanghais; some are loose-jointed, long-legged, with crane-like necks, and are a disgrace to the tribe. For the table, they were considered inferior to most other breeds, in consequence of the absence of breast-meat, and to their comparative superabundance of bone.

That the Shanghai fowl can be improved in the two essential points—legs and breast—is evident, as may be seen by an inspection of the portraits illustrating this article. The originals, now in our yard, were bred by Judge Taggart, of Pennsylvania. In form, color, and general characteristics, they are Shanghais, with fuller breasts and on short legs. Let the author, Judge Taggart, tell in his own words, how this improvement has been accomplished by him.

"The experiment of grafting Shanghais on Creeper legs is a very interesting one, and has been eminently successful. The following is the *modus operandi*: I began in 1853 by crossing a Shanghai cock on a common Creeper hen, called in some of the English books, Scotch Bakie or Dumpy. I had observed, when a boy, that in mixing this variety with long-legged birds, the offspring would be either *full long* or *full short* in the legs—seldom or never half and

half. In my recent experiments, I have found no reason to change my views. Of course, the progeny of the first year were half Shanghais, and about half the number were hatched with short legs—as short as their maternal ancestors. Pullets of this description were bred the next season, (1854,) to a thorough-bred Shanghai cock, with exactly the same result, and so continued until the present Spring. It is very remarkable, that although the chickens of this season lack only $\frac{1}{12}$ th part of being full blooded Shanghais, they show as many short-legged birds as did the first cross, viz: one half. You will perceive by following up the years, that my calculation is correct: 1853, $\frac{1}{2}$ —1854, $\frac{3}{4}$ —1855, $\frac{3}{4}$ —1856, $\frac{1}{16}$ —1857, $\frac{3}{16}$ —1858, $\frac{6}{16}$ —1859, $\frac{12}{16}$.

"I have three Creeper pullets from last year, ($\frac{6}{16}$), which weighed a month ago 9 lbs. 2 oz.—8 lbs. 4 oz.—7 lbs. 12 oz. The first is the heaviest pullet of any kind I ever saw, and will doubtless weigh 11 or 12 lbs. in a year or two. Pullets of 8 lbs. and less, have obtained this weight for me the third year, in February or March. Generally, however, the Creepers are not so heavy as their taller brothers and sisters, though

exactly of the same blood. Another thing is to be observed. When Creeper is bred on Creeper, they will produce quite a number of long-legged chickens. I have not tried them much in this way. In all their characteristics, but the legs, the fowls of this mixed breed are identical with their Asiatic progenitors, except that they are more easily confined; any place that will hold a pig, will hold them. A fence thirty inches high will hamper them, if in condition. Roaming, however, is not in their line."

The writer tried a similar experiment last season, with this difference, a Scotch Dumpy (Creeper,) cock and a Cochins hen were used; the result was, that out of a clutch of thirteen chicks, there were three full long-legged, and nine about medium between the two—being neither long nor short. C. N. BEMENT.

A Poultry Lecture in Few Words.

Mr. De Forrest Wright, Warren Co., Pa., writes to the *American Agriculturist* thus: Poultry will pay for warm quarters and suitable feed; the following account with hens for 1860 proves it:

Dr.	
To 16 hens (mixed breed) at 25 cents	\$4 00
" feed from mill	14 63
" 1 bushel corn meal	75
Total cost	\$49 38
Cr.	
By 61 Fowls, killed and on hand, at 25 cents	\$15 25
" 1933 eggs at 1 cent	19 33
Total return	\$34 58
Deduct cost	19 38
Profit	\$15 20

[The above is a model communication, plain, practical, and right to the point. The question is stated and proved in about a dozen lines. Let us have equally conclusive arguments on other subjects; they are worth whole pages of theoretical essays.—ED.]

The New Chinese or Ailantus Silkworm.

In last month's *Agriculturist*, page 40, we referred briefly to the fact that a considerable degree of interest is awakened in regard to a new silkworm, which feeds upon the common Ailantus tree (*Ailantus glandulosa*). It is claimed that it produces a silk which, though not equal in luster to that of the mulberry silkworm, is yet strong, takes most dyes well, and must be cheap, as the tree on which it feeds grows rapidly in almost every climate, and the worms are easily cared for. Indeed it is hoped by some enthusiastic French gentlemen that the new silk will soon take the place not only of the common silk, but also of Cotton in a great measure. This is a matter of much doubt, yet the most sanguine expectations may yet be realized. We have thought the subject of sufficient interest to present our readers with the accompanying engravings, and give a brief account of the matter. [We have also sent to our French correspondent to procure for us some eggs, for experiment here. If obtained, the results will be published.]

The Ailantus tree is too well known to need description. It grows rapidly, and endures our hardy winters. Those who dislike the Ailantus so much as to become nervous at the bare idea of having our country stocked with the trees, will be quieted with the statement that, while the bombyx, or new silkworm, will feed upon the leaves of the full grown tree, it flourishes best on the leaves of young shoots. The plan recommended is to set out the young trees closely in rows, like a nursery, and cut them down to the ground every Spring. The abundant suckers sent up will furnish a full supply of large tender leaves for the worms. There need therefore, be no tall blossoming trees with their disagreeable odor, but simply a thick copse of young shoots, annually renewed. The Ailantus grows freely on the poorest stony soils; and should the new silkworm prove to be valuable, the hill sides of our northern States may yet rival the mulberry plantations of Italy, and the Cotton fields of the Southern States.

The engraving represents the full grown moth or butterfly, which is superior in size and appearance to the mulberry silkworm moth. The caterpillar or worm is also larger than the common silkworm. It is of a nearly green color, marked with black spots; its spiny tubercles are bluish green; the feet, head, and the last segment or ring of the body are light yellow. It must therefore be a beautiful caterpillar, far excelling in this respect the mulberry silkworm, which, though laboring to deck others in showy silks, is itself very homely clad. The cocoons, one of which is shown on the leaf, in reduced size, are oval, and of the exact color of a dead leaf.

The eggs of the Ailantus silkworm hatch at a temperature of 64° to 68° (Fahrenheit) or 18° to 20° centigrade. They must therefore be kept in a cool place until the Ailantus plants are in leaf. When hatched, the young worms may be placed on fresh leaves in a tray, or better still, on young branches furnished with leaves, the lower ends of the branches being stuck into jars of water. After the first moulting they may be transferred to the growing trees, and left there *in the open air* until the cocoons are ready to be gathered. Those familiar with the details of producing the mulberry silk—the required house for protection, the careful nursing of both the plants and worms, the trouble of gathering fresh leaves daily, etc.—will readily appreciate the advantages of this new insect.

In conclusion, we advise that no one be in



THE NEW SILKWORM (*Saturnia Cynthia*)—CATERPILLAR, MOTH, AND COCOON.
(Engraved for the American Agriculturist.)

haste to invest his all in the new enterprise. Remember the *Morus Multicaulis*! The accounts that have reached us, thus far, are all rose colored, and we confess to a *hope* that much will come of the new enterprise. The experiments of the present year will throw further light on the subject, and we shall be ready to chronicle its success or failure, as the case may be. It may be well for a few who have the adequate leisure, and facility, to experiment in a small way the present year if they can get the eggs. It will be several weeks before we can receive ours from Paris, if they are to be obtained at all this year. We fear that all that will be available, have already been secured by interested persons in various parts of Europe.

How the Chinese Make Dwarf Trees.

We have all known, from childhood, how the Chinese cramp their women's feet, and so manage to make them "keepers at home," but how they contrive to grow miniature pines and oaks in flower pots for half a century, has always been much of a secret. With the breaking down of their famous wall, and of their exclusiveness, this, among other curious nonsense, has been partly discovered and understood. It is the product chiefly of skillful, long continued root pruning. They aim, first and last, at the seat of vigorous growth, endeavoring to weaken it as far as may consist with the preservation of life.

They begin at the beginning. Taking a young plant, (say a seedling or cutting of a cedar,) when only two or three inches high, they cut off its

tap-root, as soon as it has other rootlets enough to live upon, and replant it in a shallow earthen pot or pan. The end of the tap-root is generally made to rest on the bottom of the pan, or on a flat stone within it. Alluvial clay is then put into the pot, much of it in bits the size of beans, and just enough in kind and quantity to furnish a scanty nourishment to the plant. Water enough is given to keep it in growth, but not enough to excite a vigorous habit. So, likewise, in the application of light and heat. As the Chinese pride themselves, also, on the *shape* of their miniature trees, they use strings, wires, and pegs, and various other mechanical contrivances to promote symmetry of habit, or to fashion their pets into odd, fancy figures.

Thus, by the use of very shallow pots, the growth of tap-roots is out of the question; by the use of poor soil and little of it, and little water, strong growth is prevented. Then, too, the top and side roots being within easy reach of the gardener, are shortened by his pruning-knife, or seared with his hot iron. So, the little tree, finding itself headed off on every side, gives up the idea of strong growth, asking only for life, and just growth enough to live and look well. Accordingly, each new set of leaves becomes more and more stunted, the buds and rootlets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees, this end is reached in three or four years, in others ten or fifteen years are necessary. Such is fancy horticulture among the "celestials!"

Talk about Pruning.

As the season of the year is just at hand when many who yet adhere to the old, though not commendable, practice of Spring pruning, will be sharpening their tools for the annual "trimming," we beg leave to mention a few leading principles lying at the base of this operation.

In the outset, it may be safely said that there is altogether too much pruning done; or at least, that it is performed with too rough and careless a hand. It is scarcely more a light matter to a tree to have one of its large branches lopped off, than for a man to have an arm amputated. The body of an animal has no redundancy, no surplus parts which may be removed, and the main structure continue just as vigorous as before. May we not infer, therefore, from analogy, that every part of the vegetable is needed to preserve its health, and to enable it to fulfill the designs of nature?

All observing gardeners know that the several parts of a tree or plant are closely connected, and that one portion can not be injured without at the same time injuring others. Cut off or mar a branch, and at once a portion of the root feels the blow and suffers from it. So, if you cut off a root, the injury is felt among the branches. Nor is this surprising, if, as some say, the branch is only an extension of the root, every bud above ground having a corresponding bud or rootlet below. But whether this exact balance of parts exists or not, there is, without question, a nice sympathy and correspondence of growth and health between them. If I prune the top of a tree closely for several successive years, I do in fact prune the roots also, and *vice versa*. If a tree has an abundance of leaves, it has, and must have, an abundance of roots.

Hence we see why we are directed to prune a hedge in mid-summer, if we wish to restrain its growth and keep it stationary. Pruned in Spring, there is no loss of foliage, but a rapid determination of sap into the remaining buds, (to restore the balance between root and branch,) and hence a vigorous growth. Hence, too, we see why it is better to transplant small trees than larger ones. The first can be taken up with little mutilation of root and branch, and when again set out, they go on their way almost as if they had not been disturbed. The latter can not be unearthed without cutting off and mangling many of their roots, and so introducing derangement and disease into the whole structure. Something can be done, it is true, toward restoring the equilibrium of the parts, by cutting off a large portion of the branches at the time of transplanting; but this gives the tree another severe shock; it deprives it of a large part of its elaborating organs, and so, between the double abuse, it is a long time before it recovers—if it ever does—from the severe injuries.

The effect of injudicious pruning may be seen in almost every orchard. How many a large limb is hewn off, and the stump, not being properly protected from the elements, decays and brings disease into the entire tree! The natural life of the apple-tree, when growing in the field undisturbed, is about a century of years; yet in many of our orchards, it seldom reaches beyond half that period. So much for civilization!

Must we, therefore, not prune at all? By no means. It is the heroic style we inveigh against, and would have dispensed with as soon as possible. Moderate and timely pruning has much to recommend it. The beauty of a tree and its fruitfulness may be promoted by it, and that

with little injury to the tree's health. Plainly, however, to accomplish this, the work must be begun very early, and take the character of training rather than of pruning; *the excisions being done mostly with thumb and finger*, or with no more formidable instrument than a jack-knife. Let the saw be broken, and the hatchet buried.

In pruning for beauty, all that is needful, is to begin with the young tree, nip out any cross-branches that appear, pinch off any one-sided, ill-shaped shoots, and endeavor to keep the tree symmetrical. Within such general limits, let the tree develop its own peculiarities, and it will be beautiful according to its kind. Whenever a branch larger than one's little finger must be taken off, the wound should be covered with grafting wax or shellac.

In pruning for fruitfulness, the aim is to impede the perpendicular flow of sap, and the tendency to make more wood. This is often effected by cutting out the central shoot, and by favoring, in various ways, a horizontal growth of branches. This checks the wood making force, and promotes a deposition of fruit buds. This also gives the tree a more globular shaped head, and so exposes the fruit to light and air, and improves its appearance and flavor.

As to the best time of year for pruning, this may depend somewhat upon the object we wish to accomplish. If we want to guide the growth of the tree into new directions, or to stimulate a stunted tree, the last of Winter, or very early in Spring may answer, though the best authorities prefer the Fall or late Summer. But, to diminish rapid growth, to promote fruit-bearing, and for most other purposes, the early Summer is the best time. After pruning in Spring, there is apt to be a troublesome growth of suckers, just below the wound, increasing the evil which it was designed to remedy. Then, too, the flow of crude sap in the Spring is so very strong, it is difficult to stop it; it oozes out from the wounds, and runs down, corroding the surrounding bark and wood, often engendering decay. But when pruning is done in the month of June, the wounds are protected by the foliage, the first strong upward flow of sap is over, and the descending sap is elaborated into cambium or new wood, which begins at once to heal over the wounds, and to preserve them from decay.

Eight Reasons for Planting an Orchard.

1. Dr. Dwight used to remark to his pupils at Yale, that the raising of fruit was the cheapest and pleasantest way of entertaining one's friends. We are creatures of society, and it is a very important object to make the social board attractive to all who honor us with their friendship. A dish of well grown apples is always wholesome and acceptable.

2. An orchard is an ornament to the farm, beautiful in its spring blossoms, its summer drapery of green, and its autumn burden of yellow and ruddy fruit. No farm is complete without its acres of orchard.

3. The cultivation of fruit is a very pleasant occupation, and has an important influence upon the mind and heart of the cultivator. It requires higher intelligence than the growing of the annual crops. It fosters forecast and hopefulness, and tends to a cheerful temper.

4. It makes home attractive—children are universally fond of fruit, and the home where this luxury is always enjoyed, will be more loved on that account. It will be in pleasant contrast with many homes around them.

5. It will tend to guard children against vice and crime. So strong is the desire for fruit, that they may steal it if it be not provided for them at home. And the boy that grows up plundering his neighbor's fruit yard and orchard, is very likely to steal more valuable things when he becomes a man.

6. It is a very sure investment. An apple tree, if well planted, is about as hardy as an oak, and sure to bear fruit according to the labor bestowed upon it. When houses burn up, and banks fail, and railroad stocks depreciate, the orchard will yield dividends.

7. It is not only a sure investment for yourself, but for your children. No real estate in their inheritance is likely to be so permanently valuable. An orchard in good soil will bear fruit for a hundred years.

8. It is a perpetual incitement to thanksgiving to the bountiful Creator. It yields its burden of precious fruit year after year, giving large returns for the labors of the husbandman, and calling him to behold the wisdom and goodness of Providence. Do not fail to plant that long deferred orchard, and while you are about it, select good marketable fruit. The best is the cheapest.

Decay of Fruit Trees.

To the Editor of the American Agriculturist.

Many of my apple trees are dead, and others are dying. I do not know the cause or remedy. Some 8 or 10 years since they were pruned in the Winter, and some persons say that is the cause of the present decay. I observed that they died faster after this pruning than before. The wounds did not heal over, but the stumps from which the limbs were cut, decayed, leaving holes in them. I have some trees left, but at this rate of decay they will soon be gone. My peach trees have also declined, but that is owing to age, some of them being 20 to 30 years old. I think of putting out from 20,000 to 25,000 more, next Spring. Pear and cherry trees also, seem to be declining. Figs, I can manage—know all about this delightful fruit, and have it in abundance; but any suggestions you can make relative to the others, will be gratefully received by me and my neighbors. Enoch Reed.

Accomac Co., Va.

REMARKS.—Injudicious pruning doubtless had much to do with the decay alluded to. Besides cutting off the branches at a wrong season, a stump was left to decay, until a hole was made almost or quite to the heart wood. Cut all limbs closely, so that the first new growth shall begin to roll over the wound and cover it in a few years. See chapter upon pruning in the present number. We would also advise our correspondent to examine the trunks of his trees, near the ground, to see if borers are at work. Saw-dust castings at the foot of the tree, discolored and sunken bark, or a hollow sound when tapped with the knife handle, reveal their presence. Cut them out, or bore them to death, more to destroy a future progeny than to prevent present harm, as they will leave of themselves next May or June, to return however, very soon, in the form of butterflies to lay numerous eggs for another race. Newspapers tied closely around the trunks in May, to prevent a deposit of eggs, or an occasional application of strong soap-suds or lye, will keep the trees nearly free from these pests. It may be that your soil is at fault. Of that we can not judge. If covered with grass dig it up. Try a coat of ashes on the ground around the trees, digging it in as deep as can be done without injuring the roots.—Ed.]

The Apple Borer on Slate Lands.

A correspondent, at Hollidaysburg, Pa., says that a young orchard set out on slate land, near the base of the Alleghanies, was nearly destroyed by the borer, while another of his own planting on gravelly land escaped. He wishes to know if the slate land is particularly favorable to the depredations of the borer.

If he will come this way, we can show him young orchards on gravelly soils, and indeed, on almost every variety of soil, quite as badly injured by the borer. This insect is an excellent judge of timber, and prefers the soft, juicy bark of thrifty trees, to those that are hide-bound. The slate soil is probably of better quality than his own orchard-ground, and so is more likely to be infested with this insect. The owner also, is probably more careless of his apple trees, leaving them to their fate. We should never hesitate for fear of the borer to plant an orchard on any ground where the trees would grow. An examination about the collar of each tree, twice a year, say in June and October, will keep the borers so under that they will do but little damage. Their attacks are principally confined to young trees, and cease after a few years. The examination should be made with a sharp pointed knife and wire, killing the insects as you go.

Have You the New-Rochelle Blackberry?

If not, in March or April, according to locality, add it to the fruit garden, though last Fall would have been better. Were it necessary to dispense with either this or the best sort of raspberry, the latter would be rejected from the writer's premises, and the former chosen; even the strawberry ranks not many degrees higher in our regard, when all things are taken into account. A dozen hardy plants well trained, will supply an ordinary family with an abundance of luscious fruit for weeks. They are grown as easily as weeds; they ask only to get a good foothold, and they will maintain it most tenaciously. Of course, proper care will bring finer fruit and more of it, than merely suffering the root to occupy a place in the ground.

It is somewhat difficult to raise this plant from seed, except they be sown when first gathered; and there is no certainty of obtaining the same variety sown, although the young plants will be likely to be nearly true to kind. But the roots are now readily obtained at almost all nurseries, and at a comparatively moderate price.

Having obtained a supply of roots from a reliable source, choose a convenient location, prepare the ground, if not rich, by spading or forking the whole plot deeply and working in a liberal supply of manure, or what is better, a compost made of two parts leaf mold or chip dirt, one part rotted turf, and one part stable manure. Trenching the ground would pay in most gardens, particularly if the subsoil be clayey and hard. Mix the manure well with the whole soil, so that the plants need not be alternately feasted and starved. Post-hole cultivation, or merely digging a hole a foot square, enriching it, and crowding in the roots, may answer for raising sticks, but not for securing fruitfulness.

The plants should be placed at least six feet apart each way, as the canes grow rampantly and need plenty of room. Cut back the canes to within six inches of the root before planting.

It is best to prepare for properly training the vines at the time of setting out. Unless planted near a fence to which they can be fast-

ened, set small posts firmly in the ground, about 20 feet apart in the row of plants, and in the direction nearest North and South. They should stand about 6½ feet high above the ground. Stretch wires (No. 9, or 10) along these, fastening them firmly by staples, or by winding around the posts. Let the first be about two feet from the bottom; the others eighteen inches apart, the upper one at the top of the posts.

During the Summer keep the ground loose about the plants, and free from weeds. Mulching with leaves or cut straw during hot dry weather, will promote the growth. As the canes branch out, secure the main shoots to the wire trellis with lead wire, or soft strings, spreading them out in a fan shape. If proper attention be given, next year there will be a crop of fruit sufficient to pay for all the pains taken. These directions apply equally well on small plots for family use, or extensive plantings for market. There is yet room for many to reap a rich harvest from this fruit near any of our large cities.

For the American Agriculturist.

Raspberry Cultivation.

The common red, or Antwerp raspberry, I regard as the best in quality, and the surest to bear. It should not be set out between current bushes or by the side of a fence or hedge, but in good deep soil, fully exposed to the sun and air. I plant them in hills four feet apart each way, and, if I have plants enough, put three or four in a hill, cutting off the tops and spreading out the little fibrous roots, in fact, using as much care as I would in planting a choice tree, for I have learned by experience that no after culture will fully make up for neglect in preparing the soil, or carelessness in setting out the plants. In this latitude raspberries should be planted as early as April, and all the grass and weeds kept down by hoeing them through the season, the same as corn. When shoots spring up from the roots, if not wanted for future transplanting, they must all be cut off or dug up except three or four of the best shoots near the hill, which are to be saved for the production of fruit the next year, as the stalks die after one year's bearing. It may be necessary to drive a small stake by the hill, and tie the stalks to it. In the following spring I cut out all the old canes and take off about a foot from the end of the new ones, and then spade up the ground between the hills and apply a top dressing of manure, for I find that raspberries, to produce well, want mellow and rich ground.

The other class of raspberries, or what are commonly termed black caps, require the same cultivation as the red, but there are no shoots to cut off or dig up, as this variety produces only a sufficient number of shoots for fruit the following year. The canes will often bend over and the top take root which may be transplanted the next Spring. This class requires more pruning than the red, and should be well staked, but I prefer the red variety, and by my treatment have raised several bushels on a small patch of ground.

SAMUEL HURLBURT.

Middlesex Co., Conn.

REMARKS.—The true Red Antwerp is a first rate variety—though for home use we prefer the "Fastoff." It has a large berry, which is so tender as not to bear carriage far to market. The "Brinckle's Orange," is also a very fine berry for market or home use. It is a good bearer, fine flavor, fair size, and its beautiful orange color makes it quite attractive either in the market, or on the table.—Ed.]

LICE OR SCALE ON TREES.—J. C. Graves, Jefferson Co., Pa. Your soap suds wash was probably too weak. Make it very strong, using whale oil soap if it can be had, and wash the bodies about the middle of June when the scales are young. Potash and water answers the same purpose. Two washings during the season may be needful. Rubbing the bodies and limbs with a rough cloth, or with a broom, greatly facilitates the removal of the scale. The more vigorous you make the growth, by manure, ashes, or lime, dug in around the roots, the less will you be troubled with insects upon, or diseases of the portion above ground.

Grafting the Grape.

P. B. Wenner, Columbia Co., Pa. Graft the grape as you would the apple, only let it be just under the ground, in the root, and tie the split portions together if they do not hold the cions firmly enough. Cover with grafting wax, and draw the earth around the roots. The cions from the previous year's growth, are best cut as early as February, and inserted in May, or even early in June, after the growth has commenced—keeping the cions until wanted in a cellar to prevent their starting. There is a difference of opinion among practical men as to the utility of grafting the grape—some advise and practice it, while others think it better to throw away the old roots, if a poor kind, no matter how strong or vigorous, and start with fresh young vines.

Cultivate Rhubarb.

It will grow without much care—the burdock is scarcely hardier; but to have large, succulent stalks, pulpy as an apple, readily cooked, and good when cooked, it must be generously dealt with. The plant is a hearty feeder, and easily appropriates the rankest manure. If there be not a plot of it already established in the garden, select a convenient place about five feet wide, and long enough to contain say two crowns to every three members of the family the plants to be set four feet apart in the row. The bed may very well be made beside a fence, though much shade is objectionable. A very good plan is to have some roots on the south side of a board fence to start early, and others on the north side in the shade, where they will start late, and continue good much later in the season. As early in the Spring as the ground can be worked, trench it two spades deep, and work in six or eight inches of well-rotted manure. Do not throw it in in lumps, here and there, but mix it well throughout the soil. Set one row only in the middle of the bed; with good culture it will make a wide spread. Procure crowns of the Linnaeus variety, put them in three inches below the surface; keep the soil loose by stirring occasionally, and entirely free from weeds. As the plants progress, water the bed now and then with wash-water and other house-slops—particularly if there be drouth—they will put out broad leaves as if in very thankfulness. A few stalks fit for the table might be gathered the first season, especially if whole roots instead of single crowns can be obtained for plants: it is better to allow the whole growth of single crowns to remain, that the roots may be firmly established.

In the Fall, cover the whole bed with stable manure two or three inches deep, and in the following Spring fork it into the soil. To bring

a few plants forward rapidly for first use, set an open box over each crown, and put in three or four inches of manure from the horse-stable. Also surround the box with the same material; this will supply much warmth and hasten growth. After the leaves put forth, it is the practice of some to place a barrel, with both heads out, over the plant, to induce a lengthening of the stalk: it also has a semi-blanching effect, and there is less acidity in the edible part. This may be done with a part of the plants. As the growth increases, year by year, and new crowns are formed, they should be divided and reset, or otherwise disposed of. If they become crowded, the growth of leaf and stalk is impeded, and the value for cooking impaired.

It is better to procure crowns than to sow seed; as at least a year of time is saved, and we may be sure of obtaining the variety desired. Where seed is sown, the product may differ greatly from the parent plant.

Bleeding of Vines.

There seems to be a difference of opinion as to whether a grape vine is injured by the excessive bleeding which ensues whenever a branch is cut off late in the Spring. A paragraph has just met our eye in Lindley's "Theory of Horticulture," which is decisive on the point. He says: "Nothing is more strictly to be guarded against, than the disposition to bleed, which occurs in some plants when pruned, and to such an extent as to threaten them with death. In the vine, in milky plants, and in most climbers or twiners, this is particularly conspicuous, etc., etc. . . . This property usually arises from the large size of the vessels through which sap is propelled at the periods of early growth, which vessels are unable, when cut through, to collapse sufficiently to close their own apertures, and they necessarily pour forth their fluid contents as long as the roots continue to absorb them from the soil. If this is allowed to continue, the system becomes so exhausted as to be unable to recover from the shock, and the plant will either become very unhealthy, or will die. The only mode of avoiding it is, to take care never to wound such trees or vines at the time when their sap first begins to flow; after a time, the demand upon the system by the leaves becomes so great that there is no surplus, and therefore bleeding does not take place when a wound is inflicted."

The moral of this, so far as grape-vines are concerned, is, to prune them in the Fall, or, if the work be delayed until Spring, to do it early, (say in this month) before the first flow of sap. Sometimes, it becomes desirable to remove a large cane late in the Spring, and various means have been tried to prevent the excessive bleeding at such times. Mr. Downing recommended the use of gum-shellac paste; but we know, from experience, that it is not efficacious: the strong tide of sap bursts through it and soon washes it away. Others have recommended the insertion of a raw potato on the cut end of the branch; but this has also failed in our garden, after repeated trials.

Sir Andrew Knight published a remedy which he had practiced with success: it is as follows: "If to four parts of scraped cheese, be added one part of calcined oyster shells, or other pure calcareous earth, and this composition be pressed strongly into the pores of the wood, the sap will instantly cease to flow; so that the largest branch may be taken off at any season with safety."



Fig. 1.

Vases and Statuary in Ornamental Grounds.

ECONOMICAL SUBSTITUTE FOR MARBLE, FOR THE MASSES.

Our readers will bear testimony, doubtless, that the *American Agriculturist* inclines decidedly to the practical. As a general rule, when preparing matter for its columns, the first inquiry is: Will this thing pay? If it will not bring our readers a return of solid cash, will it yet yield something substantial and truly useful? Good manners, home enjoyments and embellishments, tasteful houses, gardens, trees, lawns and various other rural decorations—these things and the like, add as much to the happiness of life as money itself, if not vastly more, and whatever promotes these, may fairly be included in the scope of this journal. We have heretofore spoken on this general subject of rural embellishment, and now wish to say a few words more, with special reference to vases and other ornamental figures for the garden and lawn.

There is an obvious propriety in the use of these objects. Beautiful in themselves, they also serve to give an air of refinement and finish to a place, which nothing else can impart. If a



Fig. 2.

handsome house stands upon a rough, untidy piece of ground, there is an apparent incongruity between the two: there is a painfully abrupt transition between the finished architecture and the rude, uncultured land. But now surround the wall at its base with a smooth terrace; set

here and there upon it a shrub; twine a few vines about the porch and windows, and what a transformation! There is a felt harmony, a manifest link between the house and grounds. Carry the work a step further. Extend the lawn on all sides to the boundaries of the premises, and plant graceful trees upon it; set here and there on the terrace a classic vase, yonder a sun-dial, and further on, among the trees, a statue, or fountain with its jet of spray—have we not ascended a step higher?

The spirit of the architecture is carried out and diffused upon the grounds; nay, the sentiment and soul of the household itself are breathed all over and through the lawn, and grove, and garden, elevating the place high above the coarseness of the neighboring highway and plowed field, and making it all instinct with poetry and love.

"This is all very well, for those who can afford to buy marble vases and statues," says the economical reader, "but ah! poor me." Save your tears, Sir. You may buy marble statuary if you can, but if not, there is a very tolerable substitute for it in cast-iron. This, if well painted, will last about as long as marble itself. Our manufacturers of ornamental iron-work in this country have shown great good sense and taste, in preparing for the market copies of some of the finest statues and vases of antiquity. And it speaks well for the public taste that they have called for such manufactures. Whoever will visit one of these establishments in any of our large cities, will find much to interest him. And the same may be said of establishments where terra-cotta* is wrought into similar articles. Here



Fig. 3.

are many symbolical and other figures, of which the classical student will say, "Thereby hangs a tale"—a tale sometimes extending into remote history. Here are copies of Egyptian, Grecian, Tuscan and Roman sculptures. To the common eye, many of these will appear attractive only from their symmetry and grace, but to the eye of the scholar they will have an additional meaning. They will recall the pages of Homer, Euripides, Virgil and Horace; they will conjure up the memory of heroic actions, of ancient scenes and incidents which are full of the most romantic interest.

In a stroll through one of these establishments in this City, we noticed vases on which were represented the parting of Briseis and Achilles; Vulcan, forging for Achilles the sacred arms; Ajax supporting Patroclus; Hector holding his last interview with Andromache; Niobe and her daughter, etc., etc. Here we saw, not in marble, indeed, but in solid iron, copies of some of the noblest productions of genius—the works of Phidias, Apelles, Praxiteles, Angelo and Canova. And it seemed to us no light thing that the public were thus enabled to procure, at a moderate cost, specimens of the ancient sculptors which have a world-wide renown. Copies of them set near the doorway, or scattered sparingly upon the lawn, will not only answer as ornaments, but will excite the

* Terra Cotta signifies baked clay: the name is given to statues, vases, etc., made from a paste of potter's clay and a fine colorless sand.

curiosity of children and awaken inquiry into their history and significance. They will inspire in the young a love of the beautiful, and will form their taste according to the best models.

One of the finest vases which we saw at the establishment of James, Fowler & Co., of this city, was a copy of the celebrated Warwick Vase, of which we give a sketch, (Fig. 5.)

The original was produced in marble by Ly-sippus, a statuary of the time of Alexander the Great. In the year 1774, a fine copy of it was found among the ruins of the Emperor Adrian's Villa, at Tivoli, and was sent from thence to England, and came into the possession of the Earl of Warwick's family, where it has since remained, and whence it took its modern name. The critics tell us it is one of the finest relics of Grecian sculpture to be found in England. It is of the purest white marble. Its form is nearly spherical, with a deep, grouted rim. Two interlacing vines, whose stems run into and constitute the handles, wreath their tendrils, fruit, and foliage around the upper part. The center is composed of antique heads in high relief. "A panther's skin, with the thyrsus of Bacchus, (a favorite antique ornament,) and other embellishments complete the composition." It is quite large, being six feet and eleven inches in diameter, and holding one hundred and sixty three gallons. In this, the ancients mixed their wine on festive occasions, and hence it was appropriately adorned with Bacchic emblems.

Mr. Downing, in his visit to Warwick Castle many years ago, met with this famous old vase, and thus speaks of it in his letters: "Passing through a gate in the castle wall, I entered the pleasure grounds, and saw there the celebrated Warwick vase—the giant among vases. It is a magnificent mass of marble, weighing eight tons,

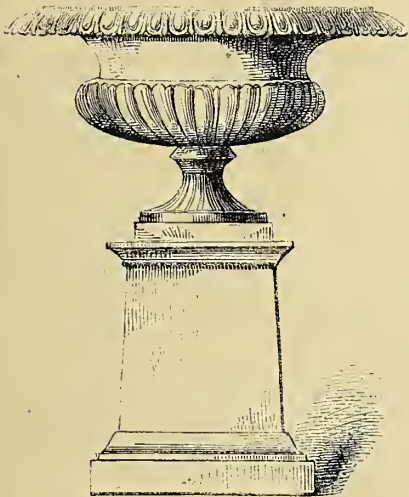


Fig. 4.

of beautiful proportions, of which reduced copies are now familiar to us all over the world. It was brought from the temple of Vesta, (?) and is larger than I had been led to believe, holding nearly two hogsheds. It is also rather more globular in form, and more delicate in detail, than one would suppose from the copies."

Mr. D., himself, had a fine copy of this vase on one of his lawns, wrought from Maltese stone. An American traveler in England, lately speaking of a certain Park in Birmingham, says: "The most imposing object here was a stupendous bronze vase, a fac simile of the marble one at Warwick Castle. The proprietor of it has refused £10,000 (\$50,000) for it: it cost about £5,000 and six years' labor."

And now, after dealing in such large figures,

it will refresh some of our art-loving readers to know that a handsome small copy of this vase in cast iron, can be bought in this country for

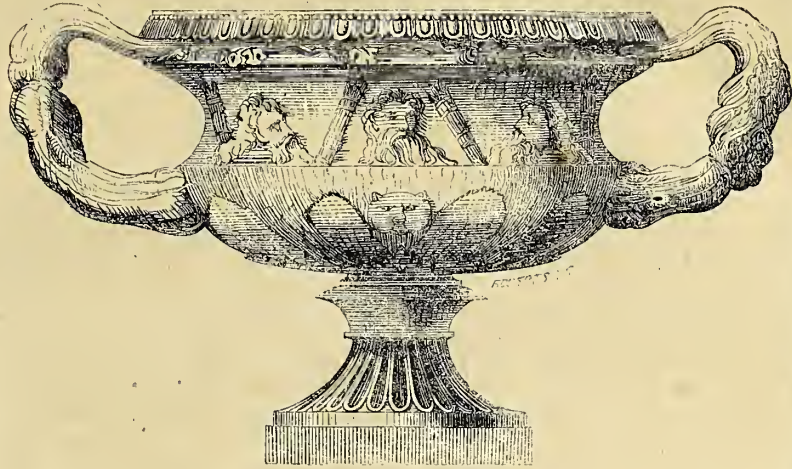


Fig. 5—WARWICK VASE.

\$18, and one of a size larger for \$30. Pedestals for the same, cost from \$10 to \$15 extra. A vase like Fig. 3, one foot high, without pedestal, can be had for \$3 or \$4. Pedestal will about double the price. Various patterns can also be found at moderate cost, in terra-cotta, or Maltese stone.

THE HOUSEHOLD.

As to Furniture—A Man's View.

The ladies must not have this matter wholly to themselves, wisely as they commonly manage it. The writer must be allowed to slip in a word, now and then, for variety, at least.

The English excel all nations in the internal decoration of their houses. The taste of the Italians runs chiefly to sculpture and painting. The French are such a race of gad-about, they give little study to the subject of home comforts and attractions. "The Dutch," says a lively writer, "have an indeterminate idea that a curtain is not a cabbage. In Spain they are *all* curtains—a nation of hangmen. The Hottentots and Kickapoos are very well in their way. The Yankees alone are *preposterous*."

What does this hit at the Yankees mean? Perhaps it means that we have no settled rules of propriety and taste, and that in undertaking to do a thing finely, we *over-do* it. Doubtless we are too much given to display. There is no "nobility" here, no blood-aristocracy to confer social distinction. Money, far too much, makes the man, and whoever can display that, considers himself lifted among the upper classes. Hence it comes to pass that in the furnishing of dwellings, we are too apt to value an article for decoration by its costliness, and its *evident* expensiveness. This leads to a general display of glare and glitter, than which, nothing can be more offensive to true taste, which requires something besides show and tinsel, however brilliant.

One of the most striking defects in the furnishing of American houses, is the want of keeping. There is a lack of harmony between the different articles of furniture, as to their size, style, color, arrangement. In some rooms, there is too much precision and stiffness, as though the carpet and furniture were made to be looked at, not used. Then again, the carpet, which is the soul of every apartment, is out of keeping. Large, sprawling figures overwhelm the little room; the glaring, ill-assorted colors make one's

eyes ache. Why not have something more delicate, harmonious, subdued, and appropriate? Most persons who can have gas-lights, will use them, probably; but to our eyes, they are harsh and flickering. Can anything be more truly beautiful and artistic, than the old astral lamp, with its ground glass shade? Don't you remember how soft and steady a light it gave? Who has not observed that female beauty is never so fascinating as un-

der its sweet, subdued radiance? And yet, the fashion is now for cut glass shades. They are more flashy and costly, and that's enough to recommend the gaudy abomination.

This passion for glare leads to the use of glass pendants on lamps and chandeliers, and to the hanging of numerous mirrors on the parlor walls. They reflect the lights, and give an air of brilliancy and of artificial extent to an apartment. But the mirrors destroy all ideas of the shape and proportions of the room, and with the glass dangles make up a bewildering display of glitter, glitter, glitter. It is a childish device, a weak love of show.

Just look into this imaginary parlor, not perfect, to be sure, but it has some good points. Not large, but longer one way than the other, by a few feet. Its windows are at the ends, not the sides, and they are large, extending to the floor and opening out on to a veranda. The curtains are crimson damask, looped up with silk cords and tassels of the same color, enlivened with a braid or two of gold. They have fringes of the same color. The walls are covered with a smooth paper, of a silvery grey tint, in which appear small arabesque figures, with an occasional sprig of gold; and the border is a neat band or scroll, in which crimson and gold appear sufficiently to characterize it. The carpet is thick, smooth, soft, with figures not too large for the size of the room—not strewn with mammoth bouquets, not glaring in color, but lively, yet subdued and in keeping with the hue of the curtains.

There are two sofas, low and cozy-looking—one or two large easy chairs, with arms, solid and comfortable, as if made for use; and two light reception chairs. These are of rose-wood, and, except the last, are covered with crimson plush or damask. There is a piano-forte, open and inviting the touch. Yonder is a table or two, large and small, not standing alone in the middle of the room, but near the sofas, and adorned with a few books and ornamental articles. Our favorite Astral lamp occupies the center of the largest table, with its ground glass shade delicately tinted with crimson. On the walls hang several paintings, family portraits and landscapes. Upon a stand, in one corner, lies a portfolio of choice engravings. On the mantle, are a few figures in Parian and bronze. In a vase, there is bouquet of fresh cut flowers.

* * * * * We had hardly finished our glance at this parlor, when a lady, fresh from

England, took us by the hand and told us about her visit to the famous Stafford House in London. She spoke, in particular, about a certain small parlor there, which struck her fancy amazingly. Said she: "There was not any particular splendor of furniture, or dazzling of upholstery, but an artistic, poetic air, resulting from the arrangement of colors, and the disposition of works of *vertu* with which the room abounded. The great fault in many splendid rooms is, that they are arranged without an eye to unity of expression. The things in them may be all fine in their way, but there is no harmony of result. People do not often consider that there may be a general sentiment expressed in the arrangement of a room, as well as in the composition of a picture. It is this leading idea which corresponds to what painters call the ground tone, or harmonizing tint, of a picture. The presence of this often renders a very simple room extremely fascinating, and the absence of it makes the most splendid combinations of furniture powerless to please.

The walls were covered with green damask, laid on flat, and confined in its place by narrow gilt bands, which bordered it around the margin. The chairs, ottomans and sofas were of white wood work, varnished and gilded, covered with the same.

The carpet was of a green ground, bedropped with a small yellow leaf; and in each window, a circular, standing basket contained a whole bank of primroses, growing as if in their native soil, their pale yellow blossoms and green leaves harmonizing admirably with the general tone of coloring.

Through the fall of the lace curtains, I could see out into the beautiful grounds, whose clumps of blossoming white lilacs and violet grass seemed so in harmony with the green interior of the room, that one would think they had been arranged as a continuation of the idea."

There! Our view through a man's eyes is confirmed by the testimony of a lady—it must be correct. HOMER.

Change of Clothing—A Caution.

Don't be in haste to put off woolen garments in Spring. Many a "bad cold," (whoever saw a good one,) rheumatism, lumbago, and other aches and pains, are lurking in the first sunshiny days, ready to pounce upon the incautious victims who have laid aside their defensive armor of flannel. All sudden changes in the system are attended with more or less of danger, but the body can accommodate itself to almost any condition, provided it be assumed gradually. The use of flannel guards against sudden change of temperature. In a warm day, when perspiration flows freely, if it be allowed to pass off rapidly, the quick evaporation carries with it much heat from the body, and a chill may be produced, followed by derangement of some function; as 'cold in the head,' or unnatural discharge from the bowels. Flannel contains much air in its meshes, and is therefore a slow conductor of cold or heat. Evaporation proceeds from it more slowly than from cotton or linen, hence its excellence as a fabric for clothing. Many persons wear it next to the skin the year round, and find it a shield against prevalent complaints in Summer. No general rule can be given as to this; it must depend upon the constitution, and employment of the individual. In all cases, however, flannel should not be laid aside until the weather is settled permanently warm—in this latitude usually after the first of

June. The change should be made in the morning, never in the after part of the day, when the energies are partly abated, and the air is usually growing cooler. Many a consumption has been contracted, by *undressing* for an evening party.

For the American Agriculturist.

Babydom.

And so "Martha" thinks "if some capable mother would teach us how to take care of the babies, she would be a real benefactress." (See Nov. *Agriculturist*, page 342.) Ignoring the capability, this alone, surely, were incentive enough to rouse one's dormant philanthropy. Too true it is, that half the little ones are tortured with slow miseries, through what *should* be their happiest, most blithesome period of existence, *babyhood*, and that too, by the tenderest mothers—mothers who preside over their well ordered homes with much common sense and discretion, where order and regularity in the routine of duties reign supreme, from 'hasement to attic,' who would think if they had a pet rabbit or pig, it must have *uniformity, regularity and fresh air* to keep it in health and fine growth; in short, who bestow all their system on every thing, but the very object that needs it most. Tell me how most babies are treated; are they not smothered in blankets, kept in warm rooms, and a bit of cool fresh air avoided as if it were a pestilence? Do they not worry and cry for this very want, and then doesn't nurse come with it to helpless mamma and insist the little creature is hungry, though nursed but a short time before!—and so, hungry or not, its cries are stilled with food it does not need—and then bona fide pain comes, and diseases often follow in dire procession, and mother and nurse are well worn out before many days with such a wearisome child! Oh goddess of Patience! who would not worry under such treatment! Babies appreciate oxygen thoroughly, and there would not be so many "terribles enfants" were there more of it in sleeping and living apartments.

Well, to be practical, and to the point, I must "give my experience," must I? which consists, at this present time, of as healthy specimens of boydom and girlhood as ever made parents' hearts brimful of thankfulness. I have pursued from their birth undeviating regularity in sleep, food, and out door life—nothing but downright rain preventing the latter. Mothers tell me, "oh, it's a very good way, if you can only carry it out, but—I can't!" Well if children are not worth self denial, if they are not better than calls or company, or visiting, then they must go to the servants; but to those warm mother hearts which make light of all fatigue and care for the sake of the baby—who accept the sweet task committed to their hands by a Heavenly Father, how much better to have the key to sunny faces and joyous rippling laughter, than wry faces and shrieks "that make night hideous." If a child is born healthy, all it needs to thrive, is the carrying out of *simple, natural laws*. For the first few weeks, every two hours is often enough for nursing, after that once in three; it will then be regularly hungry and as regularly satisfied; if it cries, you will know it is not hungry; and its stomach will never be loaded.

Let it sleep in a crib by your side, never with you, then sleep is longer, sweeter and more refreshing. Never wake a child—no, not to show it to the Queen of England! Wrap it well all but the face, and take it daily into the purest air you can find. Let its bath be not decidedly cold water, and before nursing, and then another

nice nap will follow. As it grows older, a few months, keep it out of doors half the time, and in Summer its best naps will be under the broad roof of heaven; and in Winter don't stop for cold, but wrapped up like a perfect mummy, out with the baby, and if you want to see the little one's cheeks take on the rose, let it feel the splendid tonic in a sharp nor'wester, and it will smile at the snow flakes as they softly melt on its velvet cheeks, and grow daily so strong and fat and happy, that the little life will be one continual hymn of praise to God for its own existence.

The observance of regular hours for the morning and afternoon nap, and laying the child in its crib, wide awake when the time comes, is of the greatest importance. It all turns on *commencing right*, and then there's no trouble. How infinitely better is it to lay a laughing, playful creature, with a good-night kiss, to sleep its long healthful sleep, than the common rocking and hushing so often repeated and often in vain—or the watching by the bedside, or the leaving of a light to go to sleep by. Never reward a child for crying by giving the article desired; wait till it stops. Teach it to amuse itself often, and not require some one to be constantly shaking a rattle, or tapping a window, but lay it on a bed or floor with a plaything; a slipper is an unflagging amusement when all other objects fail; and sixteenthly and lastly, always endeavor to have a serene pleasant face when you nurse your child; for, chameleon like, it is taking hues with its soul that will color and shape it for life and eternity. HATT.

New-Haven, Conn.

A Highly Valuable and Important Book for Every Parent and Teacher.

Though so pressed with business at this season, as to preclude miscellaneous reading, yet at the earnest solicitation of a friend, we began the perusal of a new book entitled "Education, by Herbert Spencer," which is devoted to the physical, intellectual, and moral treatment and training of children. The book is written in condensed form, and requires considerable close thought and study to follow the writer. We have read it at odd hours for six weeks past, and have just finished the last page, and here is our opinion:

This book is the most important one on the treatment of children ever written. We have derived from it hints and new suggestions in reference to the training of our own children, which have very materially changed our whole former theory and practice. We would not part with the knowledge we have gained from it for any pecuniary consideration. So strongly are we impressed with the importance of the reasoning of the work, that we unhesitatingly advise every parent, every teacher, every clergyman, indeed every person who has any thing to do with the care or training of children, to at once procure a copy and read, or rather study it carefully from beginning to end. The first half, devoted, in part, to laying down principles, will require close study and patience perhaps, and will be found less entertaining to some persons; but the practical deductions and suggestions of the second half will abundantly repay the study required. Get the book, read it through, and if you do not then say that it is worth to you and your children more than the dollar it costs, you can thenceforth discredit our judgment.

This is speaking strongly, but we mean it.

The present method, or want of method, in training children, physically, as well as intellectually and morally, is sadly at fault—as every parent and teacher doubtless feels. Mr. Speneer not only points out many of these defects, but he also directs us to a better way. We may not entirely agree with all his suggestions, but in the main they are excellent—many of them of the highest importance.

The work first appeared in four articles, in the three leading English periodicals, the Westminster, North British, and British Quarterly Reviews; and they are now thrown into a neat volume of 232 pages, and issued by D. Appleton & Co., of this City. We are glad to learn that 3000 copies are already sold, and it can doubtless be had through most booksellers. When not otherwise accessible, we will, with pleasure, procure copies and send them *post-paid* for the usual price (\$1). If possible, we shall secure a large edition on such terms that it can be offered as a premium in a way that those who can not afford to buy it, can secure it by a very little effort. If successful in this plan, the fact will be announced on the last page of this paper.

The Two Wives.

Recently, two men were returning home from a beer-shop at a late hour, partially intoxicated, and one of them remarked: "When I get into my house I shall catch a terrible scolding from wife." "Ah," replied his companion, "I shall meet something ten times more intolerable than that! My anxious wife who is waiting for me at this midnight hour, will meet me with nothing but kind words and acts; but her care-worn countenance, and the thought that she has been praying for me, will be far harder to endure than the most furious invectives. If she would only scold I could answer her with harsh words. Her quiet way, and her kindness, shame me, though I am tipsy. Oh I am cruel—never shall I taste another drop from the degrading cup."—He is keeping his word—so he informs the writer.

"Save the Pieces."

Furniture and crockery will be broken, "for 'tis their nature too," but they need not be left in that condition week after week, in these days of prepared glue and cement. Make it a rule to repair articles that are worth it, and which can be mended at home, on the same day they are injured, if it be possible; if not, set them aside, not to be used until put in order. A broken legged chair, or a rickety table, is not only a source of discomfort, but it goes rapidly to ruin when once out of order.

Mended crockery is hardly fit to be used for the table, particularly for holding cooked food. Grease and other matters penetrate the cracks, and they soon become uncleanly. Such dishes will answer to contain the odds and ends which most housekeepers have in the pantry. A subscriber, J. O. Harris, La Salle Co., Ill., recommends the following preparation for mending almost all articles that can be "stuck" together. It is named "Diamond Cement" and is often sold under that name at 25 cents for a 2 oz. vial:

Take 1 lb. White glue.
 ½ lb. White lead (dry),
 1 qt. Rain water,
 ½ pt. Alcohol.

Place the first three ingredients in a kettle, and set the kettle in a dish of water. Boil it until the glue is dissolved; then add the alcohol,

and boil again until all is well mixed. Keep it in well stopped bottles. Use it in the same manner as glue. Should it be a little hardened when wanted for use, soften it by placing the bottle in warm water.

Saving Matches.

They cost less than half a cent a paper, perhaps, but two gross of papers wasted, would, if saved, pay for the *Agriculturist* a year; besides, carelessness is a bad habit, however small the matter involved. Let the girls and boys roll up "lighters" of waste paper, to be used after the fire is once burning; it will take but little time to prepare them, the children like the sport, and will be kept out of mischief while thus employed; there will also be avoided much of the unpleasant smell of phosphorous and brimstone so offensive to most persons. A subscriber recommends another plan that we have seen in use, which is quite convenient and saves the trouble of making the paper lighters. Keep, say two tablespoonfuls of cheap alcohol in a small bottle: to the cork attach a wire long enough to reach the fluid, with a bit of cotton fastened on its end. The fluid on the cotton is always ready to be lighted, and will burn long enough to light several lamps.

Care of Stoves and Pipes.

When stoves are no longer needed, they are quite frequently set aside in an out-building, or other out of the way place, with no further thought, until again wanted for use. If neglected, the rust of the Summer, may injure them more than the whole Winter's wear, particularly the parts made of sheet iron. They should be kept as free from dampness as possible, and occasionally cleaned if rust be observed. W. Conrad, Somerset Co., Pa., recommends to apply a coating of linseed oil to the pipes before putting them away. It should be done while the pipes are warm (not hot) and kept at a low temperature five or six hours. This, he says, will impart a fine luster, and prevent rusting.

Hints on Cooking, etc.

(Contributed expressly for the *American Agriculturist*.)

Mrs. J. F. King, of Wayne Co., Ga., sends to the *American Agriculturist* the following prescription for two articles quite popular at the South:

SOFT HOMINY BREAD.—1 spoonful of hominy cooled (after boiling, we presume); a small lump of butter; 1 egg; ½ pint of wheat flour; mixed with milk to the consistency of cream. Pour into a spider, and bake.

HOMINY WAFFLES.—2 spoonfuls of hominy; a small lump of butter; 2 eggs; 1 quart wheat flour. Thin with milk, to the consistency of very thick cream. Bake in waffle irons.

MEXICAN STEW.—Contributed by J. B. Howe, Worcester County, Mass. Take a beef shank, saw it in three or four sections, boil 7 or 8 hours, or until the meat cleaves readily from the bones, let it cool, slice it across the fiber, with a sharp knife, add the marrow from the top of the pot, with enough of the gelatine to make a gravy, season with onions, sage and pepper, and warm up in a fry-pan.

APPLE RUSSE.—Aunt Sue says "this is a very stylish but simple pudding, prepared as follows: Make some apple sauce, *very sweet*; spread some slices of bread generously with butter on both sides; line a pudding-dish with these slices,

(sides and bottom), then pour in your apple sauce, and bake until the bread and butter is nicely browned. When done it *should* turn out of the pudding-dish all standing, but if you are preparing it for company, it is almost sure to turn out *her-slump*!

DELICATE PIE.—The grated rind and juice of a lemon; 1 cup powdered sugar; the yolks of 3 eggs; 2 tablespoonfuls of flour, ¾ of a cup of water. Take the whites of the 3 eggs, and 3 tablespoonfuls of sugar; beat to a froth, and turn it over the pie when baked. Set it in the oven again, and let it remain 3 minutes. Use but one crust.

TUMBLER CAKE.—4 tumblers flour, 2 tumblers of sugar; ½ tumbler butter, 1 tumbler milk, 2 eggs; 1 teaspoonful of saleratus; 1 of cream tartar.

SILVER CAKES.—2 teacupfuls of sugar; 1 of butter; whites of 8 eggs; ¼ cup of sweet milk; 3 cups of flour; or 1 teaspoonful of cream tartar; ½ teaspoonful of soda.

CAROLINE CAKE.—Contributed to the *American Agriculturist* by Mary E. Brotherton, Stephenson Co., Ill.—2 coffee cups of white sugar; 3 of flour; 1 of sweet cream; 2 tablespoonfuls melted butter; the whites of 5 eggs, well beaten; ¼ teaspoonful cream tartar; ¼ teaspoonful soda; ½ pound citron; 1 teaspoonful ext. lemon. Pour half the mixture in your baking dish. Slice the citron over it, then pour in the rest, and bake immediately.

Mrs. Susan S. Butler, of ——— Co., Ohio, sends to the *Agriculturist*, a number of items, or recipes, which she says she has tried and approved—and some of them she has improved. We select the following five, the first four of which have been endorsed to us by a good housekeeper near at hand:

BOILED CUSTARD.—Put one quart of milk and a teacupful of white sugar into a tin pail, and set the pail into a kettle of water and heat it. When at a boiling heat stir in four or more eggs well beaten. Keep it constantly stirring until it begins to thicken or look creamy. Then remove from the fire and pour at once into a cold dish. If left in the pail, the heat of the tin will curdle it around the edges. Flavor with vanilla or lemon. It is very good to be eaten with cake.

WASHINGTON PIE.—Stir well together: 1 cup of sugar, 1 beaten egg, ½ cup butter, ½ cup sweet milk, ½ teaspoonful soda, 1 teaspoonful cream of tartar, 2 cups flour, and flavor with a little grated nutmeg. Bake in two round tins. Turn one of the cakes bottom up, on a plate, and spread over it peach or other jelly, or cranberry, or other sweetmeats, and lay the other cake upon it. Frost, or sift on powdered sugar.

A GOOD LEMON PIE.—Beat the yolks of 2 eggs with 4 tablespoonfuls of sugar, 1 tablespoonful of butter melted, and the juice and grated peel of a lemon. Put the material into a crust and bake. When cool, beat the whites of the eggs to a froth with 2 tablespoonfuls of fine white sugar, and spread it over the pie. Put the pie back into the oven and let it just brown over.

STARCH CAKE.—Beat the whites of 5 eggs well, adding 2 cups of white sugar, 1 cup of butter, 1 cup of starch dissolved in a cup of sweet milk, 1 teaspoonful of soda, and 2 of cream of tartar. Flavor to your taste and bake.

TO CLEAN RIBBONS.—Mix 1 tablespoonful of pure honey, 1 of good soft soap, and a little more than a tablespoonful of brandy. Place the above upon a clean board, and rub in the mixture with a flannel cloth. Rinse clean with well water, avoiding any wringing. Iron on the wrong side. [This is good for ought we know, though we can not understand the chemistry of the mixture, nor do we like the soft soap. Would not good castile, or other hard soap, be better.—ED.]



AN IMPRESSIVE LESSON IN NATURAL HISTORY.—FROM A PAINTING BY HELMSLY.
Engraved for the American Agriculturist.

The Editor with his Young Readers.

A CAPITAL PICTURE.

Those of you who live near the salt water, will have no difficulty in understanding the trouble of the poor fellow who is making such amusing grimaces; you have no doubt often felt how sharply a crab will bite if not carefully handled. Very likely this lad has come from some distance inland, to visit his cousin, the fisher-boy, and never having seen such a creature, nor learned his habits, is taking his first lesson in this branch of natural history. He will not soon forget his first impression. As he will receive no serious injury, we can excuse his cousin for laughing at him. Perhaps the most attractive face in the group is that of the little girl, who looks on with real sympathy for the sufferer. The baby, peeping over his mother's shoulder, with eyes of wonder, adds much to the scene. But the picture tells its own story so perfectly, little need be said about it. Study it carefully; it is full of thoughts, and several examinations will be necessary to perceive them all.

A brief description of the crab may be interesting to those who live at a distance from the sea coast, and have never seen the animal. His shape is well shown in the picture. He has five legs on each side of his body, the two front ones end in strong claws, with which he seizes his food, and also

defends himself, as the boy in the engraving has learned. He is entirely covered with a crust-like shell, not as hard and thick as that of the turtle. As he outgrows this, it bursts open, and the animal emerges destitute of any protection except a thin skin, which, however, in a few days hardens and forms another shell. When in this state thousands of them are devoured by fish. There are several species of crabs; the one here shown lives in salt water, some other kinds are amphibious, and dig holes to live in on the edge of the water. They swim rapidly, and are also able to run nimbly when upon land. The joints of their legs are so constructed that they can move almost equally well forward, backward, or sidewise.

They are excellent for eating, and are caught in nets. A common way of taking them, which is very often practiced, is to tie a bit of meat to a string, lower it into the water, and when seized by a crab, draw it gently to the surface, and secure him with a hand net. A traveler in the East Indies related that he had seen a monkey fishing for them by sitting on a bank, with his tail hanging down in the water. When a crab seized it, the monkey gave a sudden spring, (he would be likely to,) jerked him upon the shore, and devoured him at his leisure. This, however, we have always considered a traveler's tale, though monkeys are very cunning, and it may have happened.

AMUSING GAMES.

A few evenings since, we saw the following games played at a party, in which old and young joined. They created much merriment, particularly the latter one. In the first, called "Find the Ring," a ring was slipped on to a small cord long enough to extend around the circle of players. Each person took hold of this cord, the ends of which were tied together so that the ring could not drop. The players stood near enough together to pass the ring from the hands of one to another. One of the party stood in the middle of the circle, and all together commenced moving their hands back and forth, as though passing the ring. The one in the middle endeavored, by watching closely, to detect whose hand contained the ring. This was not always easy, as the players all tried to conceal it by passing it slyly from one to another, and also to attract the attention of the "finder," by pretending to pass it when it was not in their hands. The person in whose hand the ring was found, was obliged to take his place in the middle; if the "finder" selected the wrong party as possessor, he must try again—and perhaps submit to some penalty.

The second game, called "The Voyage to India," was calculated to try a person's power of keeping a sober face, as every one detected laughing must be counted out until the next game. All took their seats in a circle. One commenced the play by saying to his right-hand neighbor. "My brother has returned from India." His neighbor asked, "What did he bring you?" "A fan," was the reply; then the first speaker waved his hand as though using a fan, while his neighbor held the same conversation with the one on his right hand, and then commenced waving his hand. This was repeated all around the circle, until each one sat fanning himself with one hand. When it had passed around, the leader said to his neighbor, "My brother brought me two fans," and at the same time commenced fanning himself with both hands; and this was passed around the circle from one to the other until all were industriously using both hands. "My brother brought me a boot," said the first speaker, swinging his foot back and forth, which went the rounds, then two boots were swung; thus all the hands and feet of the party were in motion. By this time the scene was so ludicrous that most of the company had joined in a hearty laugh, and were obliged to leave the ring; but some five or six yet remained. "My brother brought me a hat," said the leader, shaking his head, hands, and feet, and all followed the example, "He brought me a cushion;" then, hands, feet, head, and body, were all set in motion, and the gravest of the company could hold in no longer, and so the play ended with a shout. If this had failed, the leader intended next to mention a whistle; if any could keep from laughing after that, we think further trial would have been useless. The above plays are probably not new to all of you, though we had never seen them before. Perhaps you have games in your neighborhood which will be new in other sections. Please send descriptions of them. Make them so plain that they could readily be played by following the instructions given. We have several on hand yet to be published. Instructive games are preferable—though there is no objection to an occasional innocent play on purpose to have a good laugh—it oils up the working machinery, cures *mental rheumatism*, and fits one for active duty.

SHAKING HANDS.

Why do people shake hands on meeting? Can any one tell how the custom originated? It is not a universal practice. In some countries when friends meet, they lay their hands on their hearts and bow; in others, they salute by rubbing their noses together!—but most civilized nations shake hands, as we do. We will leave you to find the answer to our question by thinking, inquiring, and reading. By searching for information on such matters much may be learned about other and more important subjects; just as it is said an Indian while hunting for goats on the mountains in Bolivia, South America, found the silver mines of Potosi, the richest in the world.

Now for a Big Dictionary, Boys and Girls.

By referring to the last page, our young friends will see that the Publisher has now put it in their power to get a splendid dictionary, which will be very valuable, and last a life time. Worcester's new book is the largest dictionary ever published in this country, and as a source of information, as well as a guide to the correct spelling and pronunciation of words, it is invaluable to every person, especially to the young. All that is required to get this book, is simply to find ten new subscribers to take the *Agriculturist*. They will each get their dollar's worth in the paper, and some choice seeds thrown in, and you will get the dictionary free. But says one, "Everybody here takes the paper now." Well, take a copy or two of the paper as samples, and go into some other neighborhood; and write to your uncles or other friends telling them what you know about the paper, and how much you think of it, and get them to try the paper for a year. By perseverance and effort you will succeed, and you will feel well paid when you carry home the splendid dictionary as your own (if you can carry it alone, for it weighs nearly ten pounds!). The scholars in every school might join their efforts, and secure one for the teacher's desk, where it will be for the general benefit of all.

Uncle John's Study.....IV.

BY RALEIGH TRUMAN.

More about the *Debuscope*—Another instructive and amusing Instrument.

MR. EDITOR:—Since you published the method of making the "Debuscope," I have been greatly pleased to know that many of the *Agriculturist* family have supplied themselves with so beautiful an instrument. It not only affords pleasing and almost endless amusement, but, as Grace has proved, it can be made very useful. The last time we met in the "Study," she brought several pieces of worsted and head work. She had obtained new and handsome patterns for them by placing the *Debuscope* over bits of worsted and silk, and copying the beautiful figures which it reflected. Uncle John suggested that it would be of great service in designing ornamental figures of every kind, for calico printing, shawls, wall papers, oil cloths, gold and silver

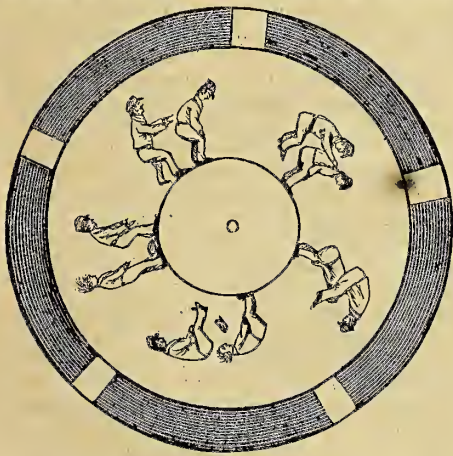


Fig. 1.

work, etc. While he was speaking of this, Fred was busy untying a package he had brought, and presently he displayed a circular card of pasteboard on which were colored figures. They were represented in various positions, as if playing at the game of "leap frog." (In this play, one boy bends over, and places his hands upon his knees, while the one behind him springs over his head.) Besides this circular card, there was another larger one, around the edge of which were square openings. The larger card was covered on both sides with plain dark paper. There was a hole in the middle of each card. Fig. 1, shows the smaller card containing the figures; it is represented as being laid upon the larger one. You can see the dark margin and the openings around the border of the larger dark card.

"Now," said Fred, "I can make these fellows play a lively game of leap frog, and after you have all seen them, I want Uncle John to explain what makes it look so, for I'm sure that pictures can't jump, though I've seen them with my own eyes."

He then placed the small card over the larger one as shown in Fig. 1; and put a small wooden pin through the holes in the center. A small ring (a



Fig. 2.

pierced cork would answer) was next slipped on to the pin; it fitted tightly and held the two cards close together and against the head of the wooden pin. The pin, which was about two inches long, was then inserted in a hole on the end of a stick or handle, in which it turned very easily. Fred now took his position before the looking-glass, held the handle in his left hand, and with his right hand, turned the cards around; being held together they revolved as if there were but one card. By looking through the openings in the large card, he could see the colored figures in the looking glass. Fig. 2, shows the way in which the apparatus was used.

After he had shown us how to manage it, we each tried it, and the appearance it made was very amusing. The figures did indeed seem to be alive, and to be playing at a merry rate.

After examining this, Fred used other cards having different figures, in place of the one first used. One represented a blacksmith working at his anvil, another, a dog catching a fox, etc.; and when the card was twirled, the figures seemed alive and in motion. The apparatus is so easily made by any one who can draw, that I doubt not many of my young friends will construct one for themselves. The cards for figures are most conveniently used when about 7 inches in diameter—the outer or larger card being half an inch larger, and having 10 openings around the margin. Each figure was repeated about ten times on Fred's cards. They were drawn to show each one a little further along in the act represented; as in Fig. 1, where the boy first makes ready, then springs a little, then is shown higher, then over his companions head, and so on.

After we had examined it sufficiently, Uncle John gave an interesting explanation of the reason the figures appeared in motion, which I must reserve until the next letter, for it would make this too long. Perhaps some of the boys or girls will make a "magic plate" as it is called, before that time; if so they might try and find for themselves the reasons for the phenomena; it would be a good exercise for them to write out their thoughts for the *Agriculturist*. [Perhaps some of you may describe the matter even better than Raleigh; if so, your explanation will be used instead of his.—Ed.]

THE FIRST AMERICAN POETRY.

There are few girls or boys in this country who have not heard the nursery rhyme sung by their mothers while rocking the cradle,

"Lul-a-by baby upon the tree top;
When the wind blows the cradle will rock;
When the bough breaks the cradle will fall,
And down will come cradle and baby and all."

But how many of you know the origin of the simple lines? We have the following account from the records of the Boston Historical Society. Shortly after our forefathers landed at Plymouth, Mass., a party were out in the field where the Indian wom-

en were picking strawberries. Several of these women or squaws, as they are called, had *papooses*, that is babies, and having no cradles, they had them tied up in Indian fashion, as shown on page 24, (January,) and hung from the limbs of the surrounding trees. Sure enough, "when the wind blew, these cradles would rock." A young man of the party observing this, peeled off a piece of bark, and wrote the above lines, which were, it is believed, the first poetry written in America.

A SMART REPLY.—A father was winding his watch, when he said, playfully, to his little girl, "Let me wind your nose up!" "No," said the child, "I don't want my nose wound up, for I don't want it to run all day."

QUESTIONS FOR YOUNG PHILOSOPHERS.

We find the following good subjects for thought and observation in the "Massachusetts Teacher."

Why, on freezing mornings of early Winter, do stones seem to be partially sunk in the ground?

Why is considerable frost sometimes seen on the lower part of window panes, while there is but little on the upper part and none in the center?

Why is frost sometimes found on the nail heads on the outside of a barn door, there being no frost on the surface of the boards around the nail heads; and why at other times are the nail heads free from frost when the boards are covered with frost?

NEW PROBLEMS.

No. 5.—*Biblical Enigma*.—Contributed by S. J. Daman, Plymouth Co., Mass.

A A A A A A M M T T N N H H E R

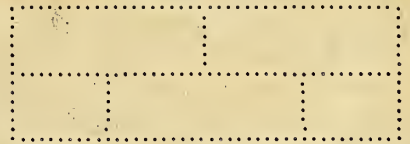
These rightly placed give two words which occur but once in the Bible.

No. 7. *Rebus*, Contributed by "Aunt Chloe," ex-

C O N

presses what every one should be. What is it?

No. 7.—*Figure Puzzle*.—Can you draw a figure like this, lifting the pencil from the paper only twice, and not going over the same line twice? It is said



that the girls and boys in France, old and young, have been puzzling over this for a long time. We do not think it can be done. If any one can do it, please tell us how.

ANSWERS TO PROBLEMS.

No. 3.—*Biblical Enigma*, (See page 55)—Answer, "Zaphnath-paaneah," found in Genesis, xli, 45.

No. 4.—*Illustrated Rebus*, (See page 55)—Answer, "All is not gold that glitters."

Correct answers received up to Feb. 18:

J. L. McCreery, Nos. 1, 2, (Rebus sent has good points); Jarvis H. Arnold, 2; A. J. Teed, 30; H. C. King, 31; R. M. Hasbrouck jr., 1, 2; Wm. S. Lea, 3; T. B. Dalrymple, 3, 4; Martin Sidener, 4; Z. Hathaway, 4; S. Joyce, 4; Isabella C. Miller, 1, 2; E. S. Perry, 4; Cornelia C. Cunningham, 4; Willie Carpenter, 4; Frank Baker, 3; A. M. Daniels, 1, 2; Libbie M. Leete, 3, 4; "Cousin Ada," 4 (Rebus good for the first trial); H. S. Wells, 4; Willie Johnston, 3; Hannah S. Osborne, 3, 4; Emma A. Church, 3, 4; "Wall Street," 4; George H. Hurd, 4; Ann E. Downing, 3, 4; Jennie Flatzinger, 4; Gipsy E. Clay, 4; A. C. Eaton, 4; "Collington," 3, 4; Abel S. Titworth, 1, 3, 4 (in good rhyme); E. E. Woods, 3, 4; M. T. Woods, 4; Thos. Bouton, 4; Clara M. Stephens, 4 (8 years old and writes a very pretty letter); Sallie A. Crater, 3, 4; George S. Bell, 3, 4; M. Thomen, 3; George Burton, 3; Edward P. Nichols, 4; N. O. H., 3; W. Boyers, 3, 4; Mrs. B. F. M., 4; Mrs. E. Buchanan, 3; Julia D. Shipley, 3 (your kind words are encouraging); J. Boyden Smith, 3 (aged 7!); Annie L. and T. H. Smith, 4; Isaac C. Halstead, 3, 4; Mary E. Bootherton, 4; James H. Gamble, 3, 4; S. J. Daman, 3; M. B. Eshman, 3, 4 (Rebus fair); George W. Howard, 4; Jennie M. Rowe, 4; J. Albert Evans, 3, 4; N. H. Haynes, 3; C. Quackenboss, 3, 4; Robert M.

Hasbreuck jr., 4; Maria E. Hagerty, 4; W. J. Boethray, 3; Sam. McQuitty, 3 (your rhyme was witty); John R. Burney, 4; R. A. Campbell, 3 (in good rhyme); Alvin R. Murray, 4; James M. Wilsen, 3, 4; Charles Veatch, 3, 4; Thos. O. Thornton, 3; Amos M. Peck, 3, 4; Ellen J. Merriitt, 3; Mrs. L. Byington, 3; Mrs. W. J. Hughton, 3; Otway B. McCluire, 3, 4; H. W. Knight, 3, 4; John M. Betts, 4; George Roberts, 3, 4; Cyrus H. Forwood, 4; Albert C. Siewers, 4 (nothing like *trying*); Chas. L. Siewers, 3, 4 (rebus fair); L. Winfield, 3, 4; Edward Davis, 3, 4; Lizzie A. Johnson, 3; David C. Henshey, 3; E. D. Lightfoot, 4 (Amen!); Godfrey Serue, 3 (letter all right); Sarah C. Vansyckle, 3; Miss R. S. Gillett, 3; S. Henry Ward, 4; Mrs. Amelia Storrs, 4; Edward Haynes, 4; Jonas H. Branch, 3, 4; Katy Ward, 3, 4; Herman B. Cook, 4; Henry M. Clark, 3, 4; Libbie R. Clark, 3, 4; M. L. Andrews, 3, 4; Edward Willis, 3; T. S. Wright, 4; E. Virginia Mills, 3; Henry Robinsen, 3, 4; J. W. Celcord, 3, 4; Harmon Pomeroy, 3; Jane B. Parks, 3; Mary L. Wint, 3, 4; Anna Lowell, 4; C. Humphrey, 3, 4; Alice B. Coggeshall, 3; Wm. D. Avery, 3, 4; R. Johnson, 4; Willy Worthymann, 4; Mary E. Servoss, 4; Thos. D. Smedley, 4; James H. Miller, 3, 4; N. N. Bailey, 4; Edward T. Smith, 4; Arthur M. Daniels, 3, 4; Seth A. Wilson, 3; Lester A. Miller, 3 (in good rhyme, written several years since when the question appeared in a N. Y. paper); Kate Negley, 4; Elizabeth Bonsall, 3; R. W. Bonsall, 3; Sarah E. Hoxie, 3; C. E. Hillman, 3; Julia Bonniwell, 3, 4; John Meit, 3; Mrs. Martha McKelvey, 3; George E. Hull, 3, 4; E. F. Coffey, 4; L. W. Page, 3; Mrs. A. B. Gage, 4 (Sorghum, *perhaps*, eorn probably—no bulbs on hand); S. McDonough, 1; John Staters, 3, 4; Ada L. Danley, 4; C. L. Vest, 1, 3.

Ough!

Wife, make me some dumplings of *dough*,
They're better than meat for my *cough*,
Pray let them be boiled till hot *through*,
But not till they're heavy or *tough*.
Now, I must be off to my *plough*,
And the boys, (when they've had *enough*),
Must keep the flies off with a *bough*,
While the old mare drinks at the *trough*.

A QUANDARY.—If a person catch hold of your ear, and ask whether he has the wrong pig by the ear, would you answer yes, or no?

PREMIUMS FOR 1861.

Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. WE WISH IT DISTINCTLY UNDERSTOOD that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for, and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—If duplicate lists are sent, to refer to at once, Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each), will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$45 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each), will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, new in course of publication, consisting of fifteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each), will entitle the person getting up the club to one of *Willcox & Gibbs' \$35 Sewing Machines*, including a set of *Hemmers*. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recom-

mend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each), will entitle the person getting up the club to one of the New \$10 *Wringing Machines*, described on page 247 of the August *Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each), will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the August *Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each), will entitle the person getting up the club to one of the best \$8 *Straw and Hay Cutters*. [If preferred, the best \$8 *Subsoil Plow* (two-horse) will be given.]

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each), will entitle the person getting up the club to one of the best \$6 *Hand Corn Shellers*—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each), will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post paid.

Premium J.

26 Subscribers at 80 cents each, (or 13 at \$1 each), will entitle the person getting up the club to a *Pocket Microscope* with the celebrated "hour-glass" or Coddington lens, in a solid silver case. Sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post paid. 20 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cents each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce, which we pay.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each, (or 125 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each, (or 105 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4½ octaves). See remarks above.

Premium Q.

130 Subscribers at 80 cents each, (or 90 at \$1 each), will entitle the person getting up the club to one of *Geo. A.*

Prince & Co.'s \$45 Melodeons (4 octaves). See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) to the amount of 12½ cents for each name forwarded at 80 cents, (or 3½ cents for each name sent at \$1), and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Seeds for Free Distribution in 1861.

Each subscriber for the twentieth volume of the *American Agriculturist* (1861) is invited to select four or five parcels of seeds from the list given below—provided the following conditions be noted and complied with. (For further remarks see Febr. No., page 60, or Jan. No., p. 5.)

If to go by mail, the applicant will (of course) furnish prepaid envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelope, and put all the postage stamps upon the right side of the envelope, —one above the other, when two or more are needed, as shown in this pattern. Arranging the stamps thus, will prevent the seeds being crushed in the stamping process in the Post-Office. One ordinary envelope will generally hold the amount of seed-packets carried by two or three stamps. The amount of stamps can be calculated from the Catalogue. Single-cent stamps on letters are of no value, unless there be even three of them, as letter postage is rated by the half ounce.

Canada subscribers, and these on the Pacific Coast, will need to substitute U. S. 10-cent stamps (or money) in all cases where 3-cent stamps are named in the catalogue. (Postage is not necessarily prepaid here, on Canada letters.)

When several peruses send together, it will frequently be cheaper to receive seeds by Express.

[Descriptive Notes upon these seeds are given on pages 3, 4, and 5, of January number.]

Field Seeds.

- 140—Imported Giant Wheat, requires ½ of a 3-cent stamp for postage on each package.
- 2—Improved King Philip Corn—Single, double, or triple packages, as desired, requiring 1, 2, or 3 stamps.
- 3—Stowell's Sweet Corn.....Same packages as No. 2.
- 141—Darling's Early Sweet Corn.....Same packages as No. 2.
- 142—Yellow Stone Turnip.....½ of a 3-cent stamp.
- 143—Walke's Eclipse Turnip.....½ of a 3-cent stamp.
- 98—Long Red Mangel Wurzel.....One 3-cent stamp.
- 101—Improved Long Orange Carrot.....½ of a 3-cent stamp.

Vegetable or Garden Seeds.

- 8—Daniel O'Rourke Pea.....Packages same as No. 2.
- 9—Champion of England Pea.....do.
- 58—Napoleon Pea.....do.
- 130—Great Eastern Pea.....One 8-cent stamp.
- 12—Green Kohl Rabi.....One-third of a 3-cent stamp.
- 13—Enfield Market Cabbage.....do.
- 145—Flat Dutch (Winery) Cabbage.....do.
- 146—Early Battersea Cabbage.....do.
- 147—Keapollan Cabbage Lettuce.....do.
- 148—Long dark Bleed Beet.....do.
- 149—Extra early Bassano Beet.....do.
- 74—Solid White Celery.....do.
- 150—Early Paris Cauliflower.....do.
- 151—Yellow Danvers Onion.....do.
- 95—True Hubbard Squash.....do.
- 152—Long large Cheese Pumpkin.....do.
- 153—Large Red Tomato.....do.
- 154—Ice-cream Water Melon.....do.
- 70—Skillman's Netted Musk Melon.....do.
- 103—Sage.....do.
- 155—Long Cayenne Pepper.....do.
- 156—Summer Savory.....do.
- 157—Long Pickle Cucumber.....do.
- 17—Red Strap-Leaf Turnip.....One half of a 3-cent stamp.
- 71—Long White French Turnip.....One 3-cent stamp.
- 107—Giant Asparagus.....do.

Flower, Fruit, and Ornamental Seeds.

- 89—Cotton Plant (2 kinds, mixed).....One 3-cent stamp.
- 111—Castor Oil Bean (Ornamental).....½ of a 3-cent stamp.

On an average about five of the following varieties will go under a 3-cent stamp.

- 160—Raspberry Seed.....(for Experiments.)
- 161—Cucumber.....do.
- 162—Gooseberry.....do.
- 163—Strawberry Seed.....do.
- 23—Mignonette, (a.)
- 25—Mixed Nasturtium, (a.)
- 27—Extra Cockscomb, (a.)
- 29—Double Balsam mix'd, (a.)
- 30—Tassel Flower, (a.)
- 32—Chinese Pink, (a.)
- 33—Portulacae, mixed, (a.)
- 33—Cypress Vine, (a.)
- 42—Foxglove, (b.)
- 49—Candytuft, (a.)
- 51—Phlox Drummondii, (a.)
- 86—Euphorbia, mixed, (a.)
- 87—Crocus, (a.)
- 122—Mixed Canterbury Bells, (b.)
- 123—Gilia nivalis, (a.)
- 124—Whitlavia, (a.)
- 126—Long-tubed Centranthis, (a.)
- 164—Sweet-scented Ageratum, (a.)
- 165—Cobaea Scandens, (p.)
- 166—Lobelia gracilis, (a.)
- 167—Malepe Grandiflora, (a.)
- 168—Swan River Daisy, (a.)
- 169—Clarkia pulchella, (a.)
- 170—Evening primrose, (b.)
- 171—Forget me not, (p.)
- 172—Lunaria biennis, (b.)
- 173—Mixed branching Larkspur, (a.)
- 174—Mixed Pansy, (p.)
- 175—Mixed Salpiglossis, (a.)
- 176—Thumb Nasturtium, (a.)
- 177—Ornamental Grass, (a.)
- 178—Lathyrus latifolius, (p.)
- 179—Xeranthemum annuum, (a.)
- 180—Centauria Americana, (a.)
- 181—Jacob's Ladder, (p.)
- 182—Sweet Alyssum, (p.)
- 183—Mixed French and German Asters, (a.)

a, annual—b, biennial—p, perennial.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Tuesday, February 19, 1861.

Farmers of this country, as a class, are usually little interested in "Foreign News," but their interests are too closely connected with the condition of the breadstuff markets of the old world to allow of any indifference. We have at present a large surplus of wheat and corn, the value of which will materially depend upon the foreign demand. For some time after our last review the export trade was not encouraging. The prices reported from England did not allow a large margin for profit upon the prices here. There was a scarcity of vessels, and higher rates of freight were demanded. The low rate of exchange made it difficult to sell bills drawn against grain and flour exported, and shippers were frequently unable to pay for new supplies to meet foreign orders received. The home demand was not much above the current receipts by railroad. These circumstances, together with the eagerness of holders of breadstuffs to sell in order to get money to meet their maturing notes, all tended to depress prices. But within a few days past the complexion of the markets has materially changed. The baneful effects of the bad season in Great Britain, both for harvest, and for sowing the crop now in the ground, are becoming more evident. The wheat threshed and brought to market is of a poor quality, and commands a price considerably below good American wheat. The diminished supply of potatoes, owing to the prevalence of the rot, is beginning to be felt. There is a more active inquiry for American flour and grain, and recent arrivals here bring liberal orders at higher rates. Hence we have quite an active demand, both for immediate shipment, and on speculation. Holders are retaining their stocks, as far as possible, with the expectation of large profits; they now refuse offers which would have been eagerly grasped at only ten or twelve days ago. Every dealer here is now looking for a further decided rise in prices. The present prospect is, that the holders of breadstuffs here will soon have full control of the prices, at least until the opening of navigation in Spring. A glance at the present condition of the supply will show that this will be readily accomplished. The cost of transportation of flour and grain by railroad is so much greater than by water, that but moderate supplies can be expected. The total receipts at this port for the month of January were: 121,000 bbls. of flour; 167,000 bushels of wheat; 93,000 bushels of corn; 65,000 bushels of oats; 45,000 bushels of barley; and 2,000 bushels of rye; while during the same month we exported 152,000 bbls of flour; 813,000 bushels of wheat; 606,000 bushels of corn; and 13,500 bushels of oats. This reduced the available supplies here on February 1st. to only 325,000 bbls. of flour, and 2,750,000 bushels of wheat—being above a quarter of a million barrels of flour, and three-fourths of a million bushels of wheat, less than the stock on hand January 1st. as reported in the last *Agriculturist*. The receipts since the beginning of this month have been light, in the face of the increased export now going on, so that the present stock must be much reduced. With no serious changes in the political horizon, and a continuance of the present current of trade, prices must go up in this market, and in a measure throughout the country, though New-York prices will be relatively higher, owing to the limited, and not easily increased, stocks available in this port. California sent us by three vessels, which arrived here during the month, about 85,000 bushels wheat, being an unusual large shipment from that young state. The general appearance of this wheat, as far as we have seen it, is decidedly good; the berry is round and plump; skin, fine, and thin; and the color very white indeed. The grain, however, is dry and flinty, and in grinding it flies before the stones, making much more than the usual amount of waste and offal. Hence, it is not in much favor with our local millers. Some of them have been experimenting with it; and we learn from one party that by damping it slightly he succeeded in making it pass regularly under the stones, and obtained a fair yield of flour. Some lots have been shipped to England, to try how the Wheat will take in the markets and among the millers of that country. As Breadstuffs get into greater request, and prices rise, Cotton seems to suffer. The demand for this staple has been quite limited, although holders have offered to sell freely, and at reduced rates. Just now, there cannot be said to be any market for the article; the few small lots, which are changing hands daily, are not sufficient to establish one; and prices are for the most part, wholly nominal. Provisions have been unusually dull, and prices have been tending steadily downward. Returns of the Hogs slaughtered and packed, at 138 points in the West, this season, including Cincinnati, Louisville, St. Louis, Chillicothe, Indianapolis, Chicago, and all Tennessee, make the total number 1,675,054, against 1,782,591 to same date last season, showing a decrease of 107,537. The remaining returns, yet to come in, will add to this decrease; but, undoubtedly, the increase in weight will more than make up for the falling off in numbers, as there is a marked increase in the weight of the hogs this season at all the places heard from. In Cincinnati, the average weight of the hogs packed this season has been 221 5-35 lbs. per hog, and the average yield of lard 28 9-16 lbs. per hog. Last season the average weight was only 189 lbs. and the average yield of lard, 23 lbs. Hay and Hops have met with a regular, but not active demand. Prices of rice have been reduced, the inquiry having fallen off. Wool has been more sought after

at previous quotations. Tobacco and Hemp have been quiet. Clover seed has been in fair request, but at lower figures. The movements in most other kinds of Produce have been restricted.

CURRENT WHOLESALE PRICES:

	Jan. 18.	Feb. 19.
Flour—Superior to Extra State	\$5 20 @ 5 55	\$5 10 @ 5 50
Superior Western	5 20 @ 5 35	5 05 @ 5 20
Extra Western	5 45 @ 7 25	5 25 @ 7 25
Fancy to Extra Genesee	5 60 @ 7 25	5 55 @ 7 25
Superior to Extra Southern	5 80 @ 7 50	5 35 @ 7 25
RYE FLOUR—Fine and Super.	3 30 @ 4 15	3 30 @ 4 10
CORN MEAL	3 10 @ 3 50	3 00 @ 3 40
Wheat—Canada White.	1 45 @ 1 55	1 40 @ 1 55
Southern White.	1 47½ @ 1 62½	1 45 @ 1 60
All kinds of Red.	1 18 @ 1 38	1 15 @ 1 35
CORN—Yellow.	72 @ 75	65 @ 68
White	71 @ 73	68 @ 73
Mixed	69½ @ 71	67 @ 68½
OATS—Western.	37 @ 38	37 @ 38
State	37 @ 38	37 @ 38
Southern	35 @ 37	33 @ 36
RYE	73 @ 75	65 @ 68
BARLEY	65 @ 80	68 @ 80
HAY, in bales, per 100 lbs.	85 @ 1 10	80 @ 1 05
COTTON—Middlelands, per lb.	12½ @ 13½	11½ @ 11½
ICE, per 100 lbs.	8 25 @ 8 25	8 25 @ 8 25
PORK—New Mess, per bbl.	17 25 @ 17 50	16 05 @ 17 00
Prime, new, per bbl.	13 12½ @ 13 25	13 00 @ 13 00
BEEF—Repacked mess	8 25 @ 9 75	8 25 @ 9 75
LARD, in bbls., per lb.	10½ @ 10½	9½ @ 10
BUTTER—Western, per lb.	10 @ 10	10 @ 10
State, per lb.	10 @ 10	10 @ 10
CHEESE	8½ @ 10½	8½ @ 11
EGGS—Fresh, per dozen	20 @ 21	15 @ 16
Limited, per doz.	10½ @ 20	12 @ 13
POULTRY—Fowls, per lb.	8 @ 10	10 @ 11
Geese, per lb.	7 @ 10	8 @ 9
Ducks, per lb.	10 @ 12	10 @ 13
Turkeys, per lb.	10 @ 12	10 @ 13
Tobacco—Kentucky, per lb.	37 @ 50	62 @ 87
FEATHERS, Live Geese, p. lb.	40 @ 48	40 @ 45
SEED—Clover, per lb.	8½ @ 9	7 @ 7½
Timothy, per bushel	2 62½ @ 2 75	2 75 @ 2 75
SUGAR—Brown, per lb.	5 @ 7½	4½ @ 7
MOLASSES, New Orleans, p. gal.	35 @ 39	30 @ 37½
COFFEE, Rio, per lb.	12½ @ 13	10½ @ 13½
COFFEE, Santos, p. lb.	13 @ 13½	13 @ 13½
Seed Leaf, per lb.	6 @ 25	6 @ 25
WOOL—Domestic fleece, p. lb.	28 @ 55	28 @ 55
Domestic, pulled, per lb.	24 @ 42	24 @ 42
HEMP—Undr'd Am., per tun.	None selling.	None selling.
Dressed American, per tun.	215 @ 235	215 @ 235
TALLOW, per lb.	9½ @ 10	9½ @ 10
OLIVE OIL, per gal.	32 7½ @ 37 50	33 00 @ 37 00
APPLES, Prime, per bbl.	1 75 @ 2 50	1 50 @ 2 25
Medium, p. bbl.	1 50 @ 1 75	1 25 @ 1 50
Common, per bbl.	75 @ 1 25	1 00 @ 1 25
Extra Dessert Apples	2 50 @ 3 00	2 25 @ 3 00
Dried Apples, per lb.	3 @ 4	2 @ 4
Dried Peaches, per lb.	8 @ 13	8 @ 13
Dried Cherries, p. lb.	14 @ 15	14 @ 15
POTATOES—Per bushel	2 50 @ 2 75	2 25 @ 2 50
Peach Blows, p. bbl.	1 87 @ 2 00	1 87 @ 2 12
ONIONS, Red, per bbl.	1 12 @ 1 38	1 13 @ 1 25
White, per bbl.	2 00 @ 2 50	2 50 @ 3 00
TURNIPS, per bbl.	63 @ 75	50 @ 75
CABBAGES, per 100.	3 00 @ 5 00	3 50 @ 5 00
SQUASHES, per bbl.	1 00 @ 1 50	1 75 @ 2 00

TRANSACTIONS AT THE NEW-YORK MARKETS.

	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
RECEIPTS.						
20 days this month	159,500	255,000	133,400	8,270	73,300	77,000
23 days last month	104,670	75,000	57,100	19,150	47,600	89,750
SALES.						
26 days this mon.	363,000	1,638,000	1,380,000	26,900	51,800	51,800
23 days last mon.	315,000	1,500,000	1,432,000	15,750	54,000	54,000

Receipts of Breadstuffs at Chicago, Jan. 1 to Feb. 12.

	1861.	1860.
Flour, bbls.	435,670	45,442
Wheat, bushels	783,353	305,327
Corn, bushels	964,549	836,602
Oats, bushels	52,233	152,927
Rye, bushels	48,223	20,705
Barley, bushels	60,173	51,819

The estimated amount of flour, wheat, and corn in store in Chicago, Feb. 12, was as follows:

Flour, bbls.	40,538
Wheat, bushels	1,335,000
Corn, bushels	991,700

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been well supplied for a winter month. Though the receipts, (16,390, for four weeks or 4,097 per week) have been less than the average of last year, they number 350 more than for the corresponding month in 1860. Prices are fully 1½ c. per lb. less than one year ago, and trade is dull. At the last general market, Feb. 13th., with 3,665 beefs on sale, the current rates were 10 c. @ 12 c. per lb., estimated dressed weight, for a few head of choice, fat premium cattle; 9 c. @ 9½ c. for prime beefs; 7 c. @ 8½ c. for medium to fair; and 5 c. @ 6½ c. for poor; average of all sales 7½ c.

VEAL CALVES.—Receipts are always light during the winter, and the demand small, so that the 1,467 for the past month, or 367 per week were sufficient for all wants. Prices continue as last month, viz.: 7 c. per lb. live weight for a very few extras, and 6 c. @ 6½ c. for good.

SHEEP AND LAMBS.—Receipts usually fall off towards the lambing season in spring. For the past four weeks 29,284 sheep have been received, or 7,321 per week. Prices are the same as last month, but much lower than one year ago. Good sheep command prices equivalent to 5½ c. @ 5½ c. per lb. live weight; fair stock about 5 c.

LIVE HOGS.—Receipts are rapidly falling off as spring approaches. For the past month the footings amount to 32,475, or 8,119 per week, against 13,730 per week of the previous month. One year ago they averaged only 2,759 per week. Present prices 5½ c. @ 6 c. per lb. live weight for corn fed hogs; and 5½ c. @ 5½ c. for still-fed hogs, with a light demand.

The Weather, has generally been mild for mid-winter with but little snow hereabouts, and only few really cold days. There is no snow now on the ground, and hardly frost enough to prevent working of the soil. —OUR DAILY WEATHER NOTES, condensed, read thus: January 19, cloudy, light rain—20 to 23, clear and cold—24, severe snow storm A.M., rain P.M.; trains blocked on many railroads—25, clear, mild—26, cloudy A.M. snow P.M. making good sleighing—27, clear—28, snow squall morning; clear, warm day—29, snow squall and cloudy

A.M., clear and fine P.M.—30, 31, clear, warm.—FEBRUARY 1, clear A.M. cloudy P.M. rain at night—2, fog, light rain—3, cloudy, snow nearly gone—4, 5, cloudy—6, clear—7, changeable, snow, rains, and heavy blow—8, clear and coldest day of winter, 8° below 0° at day light, and down to 0 all day—9, 10, cloudy A.M., clear P.M., milder—11, cloudy, rain at night—12, rain A.M., clear and warm P.M.—13, 14, clear and fine—15, cloudy, light rain—16, clear, warm A.M. cloudy P.M. with heavy thunder storm at night—17, cooler, passing clouds—18, 19, clear, fine.

P. C. Blum sends a daily report of the weather at Sigourney, Keokuk Co., Iowa, a little over one degree north of the latitude of New-York, which shows a wide difference in the temperature. Thus for the month of January the temperature at sunrise averaged there only 9°, while here it averaged 27°. On Jan. 31st, the thermometer stood at 20° above here, and at Sigourney, Iowa, 17° below. Other days show similar marked variations.

John Harwood, of Canton, Washington Co., Indiana, latitude 38½°, sends full reports of the weather for December last, from which it appears that, though 2½ degrees south of New-York, the average temperature for the month, at sunrise, was 7° lower than here—there it was 22°; here 29°.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain, s, snow.]

JANUARY.									
1.....22	8.....40	15.....33	22.....20	29.....27s					
2.....26	9.....32s	16.....34	23.....17	30.....33					
3.....24r	10.....27	17.....33	24.....25r	31.....20					
4.....31s	11.....14s	18.....30r	25.....34						
5.....28	12.....22s	19.....34	26.....29s	Average, 27					
6.....28	13.....0	20.....32	27.....25						
7.....37r	14.....10s	21.....26	28.....24s						
FEBRUARY.									
1.....20r	4.....28	7.....36r	10.....34	13.....40					
2.....42r	5.....25	8 4 b w 0	11.....36	14.....32					
3.....34	6.....32	9.....4	12.....46	15.....36r					

The Hydropult.

This implement is coming rapidly into favor with the public, and well it may. We described it last Summer (Vol. 19, Aug. No., p. 236), as a simple, convenient apparatus for throwing water, to extinguish incipient fires, for watering gardens, and for washing carriages, windows, etc., as it can be carried in the hand to any desired point, and propels a stream of water 30 to 40 feet, or more, drawing it from a pail, tub, or other convenient vessel, or directly from a cistern. A striking instance of its utility occurred near our residence a short time since. A large Greenhouse, containing many valuable plants, took fire from the heating pipes during the night. The proprietor discovered the fire towards morning, and seizing a Hydropult, which he had just brought home upon our recommendation, and calling out the servant girls to bring pails of water, he was able to throw on a stream, which kept the fire in check until the village fire engines arrived. The Palace Gardens of this city, which caught fire similarly to the Crystal Palace, were undoubtedly saved by one of these implements, which chanced to be on exhibition. They are recommended by our city fire department, and are being adopted by our public school buildings, etc. In no case, perhaps, are they more useful, than on railroad bridges, since a watchman can carry one of these implements in one hand, and a bucket of water in the other; and in case of fire from the locomotive sparks, throw a stream of water upon any part of the cover over head, or of the piles, or tressel work, underneath. They are also being adopted in smaller villages, where there is no regular fire company. Taking into account its utility not only as a means of extinguishing fires, but also as a water thrower for various purposes, the implement is worthy of a place in every house, where it can be afforded. The cost is \$12. To avoid misapprehension, as we shall offer the Hydropult for a premium (see last page), it may be proper for us to say, that we have not the slightest interest in the manufacture or sale of the implement—nor, as for that matter, in any other business, save the publication of this journal. We are, therefore, the more free to speak out independently, *pro* or *con*, concerning any implement, or enterprise, which may be of interest to our readers.

Business Notices.

Eighty Cents a Line of space.

Wheeler & Wilson's SEWING MACHINES

AT REDUCED PRICES,

with Glass-Cloth Presser, Improved Loop-Check, New Style Hemmer, Binder, Corder, etc.

OFFICE NO. 505 BROADWAY, NEW-YORK.

"This Machine makes the 'LOCK-STITCH,' and ranks highest, on account of elasticity, permanence, beauty, and general desirableness of the stitching when done, and the wide range of its application."—Report of American Institute, New-York.

ITALIAN BEES.

Orders will now be received for these bees to be delivered in the Spring. A circular will be sent to all applicants enclosing a stamp. In it will be found the terms and also reports from Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Baldrige, and others, testifying fully, from actual observation, to the great superiority of this race over the common bee. S. B. PARSONS, Flushing, N.Y.

The Suffering in Kansas.

Reliable, heart-rending accounts of suffering from destitution in Kansas are daily received in our own correspondence and through the public press. Continued drouth, last summer, destroyed the entire crops throughout whole counties, leaving thousands without food or the means of obtaining any; and, in addition to present want, unless supplied with seed from abroad, the fields must go unplanted this year. The call for aid should be answered at once. When famine reigned in Ireland and Madeira, help was freely given. Let us as promptly respond to the cry of distress from our own countrymen.

Any contributions from the eastern part of the country—clothing, good seeds, etc. may be sent to J. E. Williams, President of Metropolitan Bank, N. Y. City; or, if preferred, to this office, and the contributions will be duly acknowledged and given to the proper committee.

Immense Distribution of Seeds.

Our Seed Distribution is fairly in progress, and is interesting from its great magnitude alone, to say nothing of the advantages to the country from this wide diffusion of choice field, garden and flower seeds, amounting to hundreds of thousands, perhaps not less than half a million of separate parcels this year. These will give the germs of future abundance and of a still wider diffusion.

So great is the call for seeds this year, that we shall scarcely get up with the daily applications before the 15th or 20th of March. The express parcels, which require more time, and the direct oversight of an experienced packer, will not all be ready before the last of the March.

Our parcels of seeds are small, comparatively, especially of kinds costing \$10 to \$33 per pound, but they are each large enough to produce an abundance for future use, and in most cases each parcel contains all needed for an ordinary garden plot, or flower-bed.

While the number of parcels offered to each subscriber is limited to four or five, an extra parcel or two will be cheerfully added, when desired by those to whom we are especially indebted for favors—new subscribers, etc.

Purchasing, for Subscribers.

(See page 61, February No.)

As announced last month, any subscriber desiring to procure any article not to be found near home, and not knowing where to get it of a reliable dealer, may hereafter send to us and we will aid him so far as is in our power.

As this matter is undertaken merely as an accommodation to our readers, to promote their convenience, and to save them from loss by falling into the hands of unreliable persons, or by purchasing worthless articles, we trust all will see the necessity of remembering that "time is money," especially in a city like this, where competent, reliable assistants are expensive.

Let all requests be as simple and definite as possible. If an article is wanted, describe it particularly, and in all cases state exactly how it is to be forwarded.—Send as nearly as possible the exact amount to be paid for it. If not certain on this point, either inquire by letter for the cost, or send enough to cover all expense; and any surplus will be returned with the bill. We can not undertake to send out articles to be paid for on delivery. When a reply is needed, a postage stamp should be enclosed.

Our Exhibition Tables.

Since our last report the following contributions have been made to the *American Agriculturist* exhibition tables.

FRUIT.—Shaddock and Grape fruit—both somewhat resembling the orange—from the West Indies; Robert Sharp, N. Y. Mammoth apples and pears, from Linn Co., Oregon; Nelson C. Warner Harrison Golden Pippins; W. S. Carpenter, N. Y. "Iron" apples, noted for long keeping, and continuous bearing; G. M. Usher, Richmond Co., N. Y. Jewett apples—fine; L. W. Spalding, Worcester Co., Mass.

VEGETABLES, ETC.—Yellow Stone turnip—curious growth, somewhat resembling a hand; D. Mages, Westchester Co., N. Y. Scrub Oak turnips; W. J. Spence, Suffolk Co., L. I. London Particular globe onions, fine samples, raised from *Agriculturist* seed; W. Oliff, Richmond Co., N. Y. Hubbard Squashes; S. B. Conover, Washington Market, N. Y. Winter Cherries; Jas. H. Foster, N. Y. Turban Squash; John A. Sorg, Erie Co., N. Y. Specimens of hybridized corn; W. S. Carpenter, N. Y. Miniature corn, the smallest we have seen; M. W. Phillips, Hinds Co., Miss.

MISCELLANEOUS.—Seed cone of *Pinus Lambertiana*, large and handsome, Miss. Julia M. Fitch, Yuba Co., Cal. Natural Hygrometer, seed of *Erodium cicutarium*; very curious; John Kerler, Milwaukee Co., Wis. Japanese umbrella, made of waterproof paper, of beautiful workmanship; W. C. Carpenter, N. Y. Husking pin, neatly made of bone; John G. Hale, Erie Co., O. Two beautiful owls, small species, one from J. S. Bode, N. Y., one from W. H. Hanlett, N. Y.; also another eagle, and a long-eared owl, purchased by the proprietor.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.
Fifty cents per line of space for each insertion.
One whole column (15 lines), or more, \$60 per column.

Business Notices, Eighty cents per line of space.
FOR THE GERMAN EDITION ONLY.
Ten cents per line of space for each insertion.
One whole column (15 lines), or more, \$10 per column.

Business Notices, twenty cents a line.
FOR BOTH EDITIONS, ENGLISH AND GERMAN.
Fifty five cents per line; \$55 per column.
Business Notices Eighty-five cents per line.



THE HYDROPULT

an invaluable invention for Extinguishing a Fire, Cleansing Trees from Insects, Watering Gardens, Protecting a Roof from Taking Fire, Washing Windows, Sprinkling Streets, Washing Carriages, Wetting Sails, &c. Every Farmer, Gardener, and Housekeeper should have it. Price \$12. For sale wholesale and retail by the

AMERICAN HYDROPULT COMPANY,
131 Nassau-st., New-York.

THE BEST THING I EVER HEARD OF—25 cents worth of the Russia Waterproof will save \$5 in boots and shoes. Depot 297 Pearl-st., N. Y. W. C. GRAY.

Select List of STRAWBERRIES.

TEN VARIETIES AND 1000 PLANTS FOR \$10.

For \$10 we will furnish 100 plants each of the following choice kinds: TRIOMPHE DE GAND, TROLOPE'S VICTORIA, VICOMTESSE HERICARIE DE TAURY, FILMORSE, BRITISH QUEEN, BURR'S NEW PINE, JENNY LIND, HOOKER, McAVOY'S SUPERIOR, and WILSON'S ALBANY.

FIVE VARIETIES AND 500 PLANTS FOR \$5.

For \$5 we will furnish 100 plants each of the following kinds: TRIOMPHE DE GAND, TROLOPE'S VICTORIA, BURR'S NEW PINE, JENNY LIND, and WILSON'S ALBANY.

STRAWBERRY PLANTS BY MAIL.

For \$1 we will send to any Post Office address in the country, post-paid, and carefully put up in cotton and oiled silk, so as to carry safely, 25 good plants of the WILSON'S ALBANY. We will send, for the same price, the same number of plants (25), of any variety offered in our catalogue, at 25 c. per doz.

For \$1 we will send 20 plants of the TRIOMPHE DE GAND, or any other variety we offer at 50 cents per dozen. No order filled of plants by mail, for less than one dollar's worth, of any one kind.

RASPBERRIES.

Our stock of plants is very large and fine. We have over twenty varieties, including BRICKLE'S ORANGE, at \$1.00 per dozen; \$3.00 per 100; FRANCONIA, at 75 cents per dozen; 4.00 per 100; EASTLOFF, RIVER'S LARGE FRUITED MONTHLY, KNEVETT'S GIANT, HUDSON'S RIVER ANTWERP, RED AND YELLOW ANTWERP, and others, at 75 cents per dozen; \$3.00 per 100; IMPROVED AMERICAN BLACK CAP, 50 cents per doz.; \$3.00 per 100.

Persons wanting large quantities of the above, will be furnished at very low rates.

SELECT LIST OF RASPBERRIES.

For \$10 we will furnish 100 BRICKLE'S ORANGE, the finest flavored Raspberry, as well as one of the largest, most beautiful, and productive.

100 FRANCONIA, a very large red berry, of good flavor, attractive, and enormously productive.

100 IMPROVED AMERICAN BLACK CAP; much larger, more juicy, better flavored, with fewer seed, and every way superior to the common Black Cap. The plant is entirely hardy and very productive, and the fruit is much sought after in the market.

The above kinds include the three colors—orange, red, and black—and furnish a pleasant variety in flavor. We regard them as the best for amateurs, and the most profitable for market culture.

BLACKBERRIES.

NEW-ROCHELLE.....\$1.00 per dozen; \$5.00 per 100.
DORCHESTER.....75 cts. do. 4.00 do.
NEWMAN'S THORNLESS.....75 cts. do. 3.00 do.

For \$10 we will send 100 of each of the above kinds. We have fruited these varieties for five years, and having ten acres in cultivation, we are prepared to furnish wholesale purchasers at lowest rates.

LOGAN GRAPE VINES.

Having procured a supply of the above early and valuable Grape, of A. Thomson, of Delaware, O., we will furnish good, well-rooted vines, at 75 cents each—\$7.00 per dozen; or by mail, securely put up, and postage paid, \$1.00 each.

J. KNOX, Lock Box 153, Pittsburgh, Pa.

Strawberries! Strawberries!

"By their fruits ye shall know them."

What Strawberry shall I plant? Why! the Wilson's Albany—Why? Because it is the most productive, the largest, and finest berry out. In fact it is the "fashionable" berry.

Originated at the Albany Nursery, where plants can be procured by addressing JOHN WILSON, Albany, N. Y.

Price per 100 plants.....\$1
do. 1000 do.....\$8
Liberal discount to the trade.

FARM PRODUCE

SOLD ON COMMISSION,

Such as Flour, Butter, Cheese, Lard, Provisions of all kinds, Grain, Eggs, Poultry, Game, &c., &c.
ISAAC EMENS, 236 FRONT-ST., NEW-YORK.
SUCCESSOR TO THE FIRM OF HAIGHT & EMENS.
Refers to the Editor American Agriculturist.
E. R. Cooper, Cashier, Market Bank, New-York.

New Cayahoga Grapes.

Send a stamp for our Illustrated and Descriptive Catalogue of over 80 sorts of New Grapes; also Raspberries; Currants; Gooseberries, &c. Also Roses and Flowering Shrubs.
C. P. BISSELL & SALTER, Rochester, N. Y.

GRAPE CUTTINGS.—Concord, Diana, and Hartford Prolific Grape Cuttings, from bearing vines, (warranted true), at \$2 per 100, or \$15 per 1000 eyes; also cuttings of Delaware, Anna, Ontario, Logan, and Union Village at \$4 per 100, or \$30 per 1000 eyes. For sale by
JOHN B. GOOD, Nurseryman, York, Pa.

100 Varieties of Native Grape Roots, strong and cheap. Fruit and Ornamental Trees, Flowering Shrubs, Roses, Small Fruits, &c. Catalogues mailed free to all applicants, with a beautiful cut of the Concord Grape. Address
W. C. LOOMIS, Lowell, Oneida Co., N. Y.

HUBBARD SQUASH.

I have received from the Mass. Horticultural Society a piece of Silver Plate as ORIGINAL INTRODUCER of this celebrated Squash. A package of about 50 seeds of the purest quality grown, WARRANTED to reach each purchaser 15 cts. Four packages, 50 cts. JAMES J. H. GREGORY, Marblehead, Mass.

HONOLULU CITRON SQUASH.—18 SEEDS of this best of all squashes sent to any address on receipt of four three cent stamps. For five stamps a package of pure Hubbard also. J. A. LEWIS, Nurseryman, Willimantic, Conn.

CARROT, BEET, AND TURNIP SEEDS, of the various kinds, of extra quality, for sale by J. E. MACOMBER, Wholesale Seed Grower, Portsmouth, R. I.

IMPROVED AMERICAN BLACK CAP RASPBERRY, 50 cents per dozen; \$3.00 per 100; \$25.00 per 1000. J. KNOX, Pittsburgh, Pa.

Premium Seed Corn for Sale.

Improved King Philip. The most productive corn in cultivation. 14½ bush. was raised to the acre last year in this State, ripening in a little over 100 days.

Prolific Golden Drop. The most productive and beautiful yellow corn grown. 15 bush. corn, 13 feet heavy, weighing 62 lbs. to the bush. A bushel of ears will produce 17 quarts of shelled corn. It ripens in 110 days; ears very large, 8-rowed.

Improved Crystal Flint. A beautiful 12-rowed white corn, producing two and three ears to the stalk, very productive; ears large, and ripening very early.

The above are selected from 25 varieties, grown by me in 1859, and can be recommended to farmers.

Price: Improved King Philip Corn, per bush. \$2.50; per peck 75c. Prolific Golden Drop and Improved Crystal Flint, \$3 per bushel; \$1 per peck.

All orders addressed to W. S. CARPENTER, 468 Pearl-st., New-York.

FRANCONIA RASPBERRY PLANTS, \$1.00 per dozen; \$4.00 per 100; \$35.00 per 1000. J. KNOX, Pittsburgh, Pa.

EVERGREENS.—JOHN W. ADAMS, Portland, Maine, continues to furnish ARBOR VITÆ and other EVERGREEN Trees at low prices, properly taken up and packed. Catalogues ready.

BRICKLE'S ORANGE RASPBERRY PLANTS, \$1 per dozen, \$5.00 per 100; \$40 per 1000. Wholesale purchasers furnished at low rates. J. KNOX, Box 153, Pittsburgh, Pa.

Bloomington Nursery, Illinois.

At Junction Ill. Central [Dubuque and Cairo] and St. Louis, Alton and Chicago Railroads. Established 1852. 120 acres Fruit, Ornamental, and Nursery Stock, a very general and reliable assortment, cheap for Cash. Particular attention invited to the splendid stock and assortment of *One Year Apple Grafts*, mostly 2 to 3 feet, 1000 \$25. Also *Root Grafts*, 10,000 \$50, for our ordinary and we may add, unusually successful quality [from which above named fine 1 year olds]. Root Grafts, extra strong, (to order only), 10,000 \$75. Dwarf Fruit, choice *Currants* and *Grapes*, many sorts. *Mulberry*, Downing's Everbearing, \$16 per doz. *Gooseberry*, *Blackberry*, *Raspberry*, 1000 \$15 to \$40. *Strawberry*, including Wilson's and both McAvoy's, 1000 \$5. *Asparagus*, 3 years, 1000 \$3. *Rhubarb*, including Linnaeus and Victoria, 1000 \$30 to \$60. Apple Stocks, good, 2d size for budding, 10,000 \$15. Quince, Pear, Plum, Mahaleb, and Rose Stocks, *Apple Seeds*, *Shade and Weeping Trees*, *Roses*, *Shrubs*, and *Dubs*, a superb stock. *Evergreens*, Nursery grown, several sorts, 1000 \$10. Packing carefully done. See Catalogues. Address, Bloomington, Ill. F. K. PHENIX.

TRIOMPHE DE GAND STRAWBERRY PLANTS, the best and most profitable; 50 cents per dozen; \$1.50 per 100; \$10 per 1000. Dealers furnished at greatly reduced prices. J. KNOX, Pittsburgh, Pa.

PASCHALL MORRIS' DESCRIPTIVE SEED CATALOGUE, ALMANAC AND GARDEN MANUAL for 1861, with complete lists of vegetables. Directions for Culture, and other information of importance to the Farmer and Gardener, forwarded by mail on remission of stamp. Also illustrated Impement and Nursery Catalogues. PASCHALL MORRIS, Agricultural and Seed Warehouse, 1120 Market-st., Philadelphia, Pa.

FILLMORE STRAWBERRY PLANTS, 50 cents per dozen; \$2.00 per 100; \$15.00 per 1000. J. KNOX, Pittsburgh, Pa.

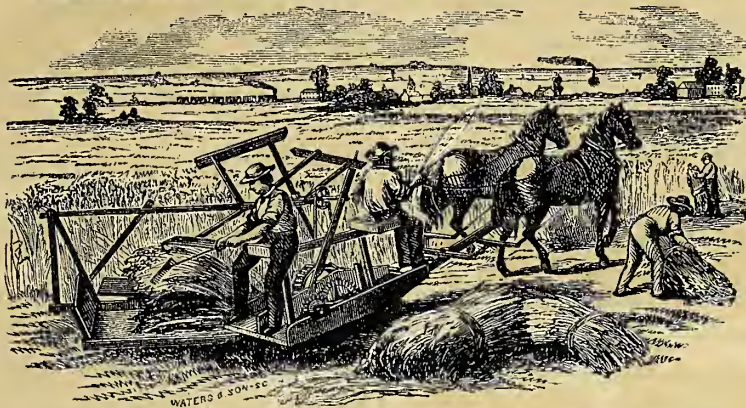
Great Austin Shaker Strawberry.

The price of this mammoth variety will be reduced this Spring to \$2 per dozen, or \$10 per hundred. Delivered in rotation as ordered. The Great Austin was exhibited last year in Boston, New-York, Philadelphia, Rochester, and Albany, and acknowledged to be the most beautiful, and to average the largest and most productive of any other strawberry in cultivation. Orders addressed to either
CHAUNCEY MILLER, Shaker Trustee, Albany, N. Y., or
WM. S. CARPENTER, 468 Pearl-st., New-York.

WILSON'S ALBANY STRAWBERRY PLANTS, 35 cents per dozen; \$1.00 per 100; \$5 per 1000. J. KNOX, Box 153, Pittsburgh, Pa.

Homes for the Industrious!

— IN THE —
GARDEN STATE OF THE WEST.



THE ILLINOIS CENTRAL RAILROAD CO., HAVE FOR SALE
1,200,000 ACRES OF RICH FARMING LANDS,
In Tracts of Forty Acres and upward, on Long Credit and at Low Prices.

MECHANICS, FARMERS & WORKING MEN.

THE attention of the enterprising and industrious portion of the community is directed to the following statements and liberal inducements offered them by the **ILLINOIS CENTRAL RAILROAD COMPANY**, which, as they will perceive, will enable them, by proper energy, perseverance and industry, to provide comfortable homes for themselves and families, with comparatively speaking, very little capital.

LANDS OF ILLINOIS.

No State in the Valley of the Mississippi offers so great an inducement to the settler as the State of Illinois. There is no portion of the world where all the conditions of climate and soil so admirably combine to produce those two great staples, **CORN** and **WHEAT**, as the Prairies of Illinois.

THE SOUTHERN PART

Of the State lies within the zone of the Cotton regions, while the soil is admirably adapted to the growth of Tobacco and Hemp, and the Wheat is worth from 15 to 20 cts. more per bushel than that raised further north.

RICH ROLLING PRAIRIE LANDS.

The deep rich loam of the prairies is cultivated with such wonderful facility that the farmers of the Eastern and Middle States are moving to Illinois in great numbers. The area of Illinois is about equal to that of England, and the soil is so rich that it will support twenty millions of people.

EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

APPLICATION OF CAPITAL.

Thus far, capital and labor have been applied to developing the soil; the great resources of the State in coal and iron are almost untouched. The invariable rule that the mechanic arts flourish best where food and fuel are cheapest, will follow at an early day in Illinois, and in the course of the next ten years the natural laws and necessities of the case warrant the belief that at least five hundred thousand people will be engaged in the State of Illinois in various manufacturing employments.

RAILROAD SYSTEM OF ILLINOIS.

Over \$100,000,000 of private capital have been expended on the railroad system of Illinois. Inasmuch as part of the income from several of these works, with a valuable public fund in lands, go to diminish the State expenses; the TAXES ARE LIGHT, and must consequently every day decrease.

THE STATE DEBT.

The State debt is only \$10,105,398 14, and within the last three years has been reduced \$2,959,746 80, and we may reasonably expect that in ten years it will become extinct.

Pamphlets descriptive of the lands, soil, climate, productions, prices, and terms of payment, can be had on application to

J. W. FOSTER, Land Commissioner,
CHICAGO, ILLINOIS.

For the names of the Towns, Villages, and Cities situated upon the Illinois Cent. R. R., see pages 188, 189 & 190, **APPLETON'S RAILWAY GUIDE.**

PRESENT POPULATION.

The State is rapidly filling up with population; 868, 025 persons having been added since 1850, making the present population 1,723,663, a ratio of 102 per cent. in ten years.

AGRICULTURAL PRODUCTS.

The Agricultural Products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 bushels, while the corn crop yields not less than 140,000,000 bushels.

FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep rich loam, the fertility of which is unsurpassed by any on the globe.

TO ACTUAL CULTIVATORS.

Since 1854, the Company have sold 1,300,000 acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed through these lands at an expense of \$30,000,000. In 1850 the population of forty-nine counties, through which it passes, was only 335,598 since which 479, 293 have been added; making the whole population 814, 891, a gain of 143 per cent.

EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tons of freight, including 8,600,000 bushels of grain, and 250,000 barrels of flour were forwarded over the line last year.

EDUCATION.

Mechanics and workmen will find the free school system encouraged by the State and endowed with a large revenue for the support of schools. Their children can live in sight of the church and schoolhouses, and grow up with the prosperity of the leading State in the Great Western Empire.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from \$6 to \$25 per acre, according to location, quality, &c. First class farming lands sell for about \$10 to \$12 per acre; and the relative expense of subdividing prairie land as compared with wood land is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

ONE YEAR'S INTEREST IN ADVANCE,

at six per cent. per annum, and six interest notes at six per cent., payable respectively in one, two, three, four, five and six years from date of sale; and four notes for principal, payable in four, five, six and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated, each and every year, for five years from date of sale, so that at the end of five years one-half shall be fenced and under cultivation.

TWENTY PER CENT. WILL BE DEDUCTED

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars.

Garden Seeds. Garden Seeds.

The subscriber is extensively engaged in raising all kinds of Garden Seeds, having nearly 100 acres under cultivation for that purpose. They can be furnished in any quantity, and of the choicest quality. A new retail Catalogue at greatly reduced prices, and containing directions for cultivation, is just published, and will be sent to all applicants.

G. R. GARRETSON, Flushing, N. Y.

TO TREE PLANTERS. PARSONS & CO.

Offer their fine stock of
FRUIT TREES

of as good quality as can be elsewhere procured, and at low prices.

APPLE TREES.....	\$14 per 100.
CHERRY TREES.....	16
PLUM TREES.....	32
DWARF PEARS.....	25
STANDARD PEARS.....	30
DELAWARE GRAPE VINES.....	50

The other

FOREIGN AND NATIVE GRAPES

at moderate rates.

DWARF PEACH TREES

pruned for immediate bearing in Pots, and in the open ground, at low rates.

VERBENAS and other CURRANTS in quantity, as well as BLACKBERRIES, RASPBERRIES, STRAWBERRIES, and GOOSEBERRIES.

PEAR STOCKS and CHERRY STOCKS of fine quality.

For Catalogues apply at No. 3 Nassau-st., New-York, or by mail to

PARSONS & CO.,

Flushing, near New-York.

FRUIT AND ORNAMENTAL TREES, For Spring of 1861.

ELLWANGER & BARRY

solicit the attention of Planters, Nurserymen, Dealers and others, to their large and fine stock which they now offer at wholesale and retail, at low prices. It embraces

STANDARD FRUIT TREES, for Orchards.

DWARF FRUIT TREES, for Gardens.

DWARF MAIDEN TREES, (yearlings), for Orchard house culture, of all the finest varieties. Selections made by E. & B. for that purpose.

HARDY GRAPES, New and Old.

FOREIGN GRAPES, for Vinerias, all the best.

STRAWBERRIES, 50 varieties, the best Native and Foreign.

BLACKBERRIES, New Rochelle and Dorchester.

RASPBERRIES, all of the most popular varieties, including six of the best Autumnal bearing sorts.

GOOSEBERRIES, American and English.

CURRANTS, twenty best varieties.

FILBERTS, CHESTNUTS, WALNUTS, AND FIGS.

RHUBARB, Myatt's Linneus and other fine sorts.

ORNAMENTAL DEPARTMENT.

The Stock in this department is the largest and best we have ever before offered, and embraces every thing desirable, new and old, among

DECIDUOUS ORNAMENTAL TREES,

EVERGREEN TREES, PEONIES,

FLOWERING SHRUBS, DAHLIAS,

ROSES, PHLOXES,

BORDER PLANTS.

BULBOUS ROOTS, Summer and Autumn Flowering, including Amaryllis, Gladioli, Tuberoses, Tigridia, Tritonia Aurea, Colchicum, Japan Lilies, the finest new varieties, and all the other desirable species.

GREEN-HOUSE AND BEDDING-OUT PLANTS, of all the popular classes, grown extensively and sold cheap.

SUPERB NEW PETUNIAS.

Twelve new varieties of Petunias, which we think superior to any in cultivation, will be ready to go out May 1st, — \$4 for the 12 — names and descriptions furnished on application.

STOCKS FOR NURSERYMEN.

PEAR SEEDLINGS, our own growth, 1 and 2 years.

For full and detailed information respecting the stock, prices, terms, &c., we refer to the following Catalogues which will be sent gratis, pre-paid, to all who inclose one stamp for each.

No. 1.—Descriptive Catalogue of Fruits.

No. 2.—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.

No. 3.—Descriptive Catalogue of Dahlias, Green-House and Bedding Plants, &c.

No. 4.—Wholesale Catalogue for Nurserymen, Dealers and others, who purchase in large quantities.

ELLWANGER & BARRY,

Mount Hope Nurseries, Rochester, N. Y.

EVERGREEN NURSERY.

Woodbury, New-Jersey.

DAVID J. GRISCOM, Proprietor.

The attention of persons stocking or replenishing nurseries, or having extensive grounds to improve, is particularly invited.

15,000 Extra No. 1 Peach Trees at a great BARGAIN to clear a piece of ground. Send for a circular. **WM. DAY, Morristown, N. J.**

FOR SALE. — LARGE STANDARD PEAR

Trees of the choicest varieties; also, Plum, Cherry, and Apple Trees, and many kinds of Shrubby, &c., &c.; at our Nurseries in Tioga, Tioga Co., Pennsylvania.

Tioga, Sept. 26, 1860. **WICKHAM & BLOODGOOD.**

500,000 AMERICAN ARBOR VITÆ

from 6 to 12 inch. high, for sale at \$3 per thousand, by **ALBION P. CHAPMAN, Portland Maine.**

ORNAMENTAL PLANTING

will commence this month.

PARSONS & CO.

are prepared with every variety generally required, whether for

THE GARDEN, THE LAWN, OR THE AVENUE.

Our STREET TREES are of very fine size and quality, and our SHRUBS embrace all the novelties, as well as those needed in quantity for massing.

Among the EVERGREENS we now cultivate 32 varieties of Spruce, 30 of Pine, 21 of Fir, 41 of Juniper, 24 of Yews, 20 of Arbor Vitæ, 61 of Rhododendron, besides a smaller number of species of many other genera, amounting in all to 274 varieties.

In our Greenhouses is a large stock, embracing the new and rare FOLIAGED PLANTS as well as an extensive assortment of the

NEW BEDDING PLANTS.

For Catalogues apply to us at

FLUSHING, near New-York.

FLOWER SEEDS. FLOWER SEEDS.

After cultivating over one thousand varieties of Flower Seeds, I have selected about one hundred kinds of the most hardy, showy, and attractive, of which I will furnish, neatly put up, any 33 kinds on the list for \$1. and send by mail with postage prepaid. Send for a Catalogue.

G. R. GARRETSON, Flushing, N. Y.

Worcester's Quarto Dictionary The Standard

ILLUSTRATED,
Price \$7.50.

1854 Royal 4to Pages.

READ THE FOLLOWING TESTIMONIALS.

It is the most complete and practical, the very best as well as the cheapest English Dictionary that I know.—[JOS. BOSWORTH, D. D., Professor of Anglo-Saxon, University of Oxford, England.

The standard Dictionary of our language.—[C. C. FELTON, LL. D., President of Harvard College.

Much superior to any other general Dictionary.—[GEORGE P. MARSH, LL. D., Author of Lectures on the English Language.

The noblest monument yet reared to our mother tongue.—[Hon. Wm. C. RIVES, of Virginia.

This last effort of yours seems to have left nothing more to desire, in regard to a Dictionary of the English Language.—[JUDGE MCLEAN, of Ohio.

The Work appears to me to be altogether unsurpassed.—[LEONARD WOODS, LL. D., President of Bowdoin College.

I consider your Dictionary in almost every respect—in orthography, pronunciation, and definitions—as superior to any of its predecessors.—[DANIEL R. GOODWIN, D. D., President of Trinity College, Hartford.

I have examined your Dictionary with deep interest, and I believe, with fairness and impartiality, and I find it superior to every work of the kind that has ever come under my notice.—[Rev. F. COOSEMANS, S. J., President of St. Louis University.

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Contents for March, 1861.

Ashes—Coal—Use for.....	75
Babydom.....	86
Bees—Apiary in March.....	67
Bees—Are Movable Frame Hives Best.....	77
Bees—Starting an Apiary.....	78
Bees—Stingless, of Central America.....	9 Illustrations. 76-7
Birds—Blue Jay in the Corn Field.....	71
Blackberry—New-Rochelle—How to Plant.....	83
Book on Education—Valuable and Important.....	86
Boys' and Girls' Columns—Editor with his Young Readers—Capital Picture—Amusing Games—Shaking Hands—A BIG DICTIONARY FOR THE BOYS AND GIRLS—Uncle John's Study, No. IV—First American Poetry—Smart Reply—Questions for Young Philosophers—Problems—Ough.....	3 Illus. 88-89
Broom Corn—Dwarf—Experience with.....	71
CALENDAR OF OPERATIONS FOR THE MONTH.....	66
Canada Letter—Hubbard Squash, etc.....	71
Carrots—Value of.....	80
Cattle—Large.....	72
Cement for Crockery, etc.....	87
Clothing—Change of—A Caution.....	86
Cooking Hints—Hominy Bread, Pies, Cakes, etc.....	78
Corn—How Iowa Boys Raised.....	87
Draining—Why Beneficial, and Where.....	4 Illus. 70
Dream—A Profitable—Paying Interest.....	Illustrated. 73
Editors Humbugged.....	72
Farm Work in March.....	66
Flower Garden and Lawn in March.....	67
Furniture—A Man's Views.....	85
Garden—Kitchen and Fruit, in March.....	66
Garden Plants—How to Start Early.....	79
Gas Lime—Johnson's Opinion—Experience with.....	75
Grape—Grafting the.....	83
Grape Vines—Bleeding—To Prevent.....	84
Grass Seed—Sow this Month.....	71
Green and Hot-Houses, in March.....	67
Horses—Spavin—Remarks on.....	72
Insects—Apple Borer on Slate Lands.....	83
Insects—Lice or Scale on Trees.....	83
Insects—Potato Bugs, to Destroy.....	77
Lime—How to Make Oyster Shell.....	74
Mangel Wurzel versus Corn.....	71
Manures—Queries and Answers.....	74
March—Suggestions—Fickle Men.....	Illustrated. 65
Market Review—Weather Notes, etc.....	91
Matches—Substitute for.....	66
Orchard and Nursery, in March.....	82
Orchard—Eight Reasons for Planting.....	80
Poultry Lecture in Few Words.....	80
Poultry—Shanghai Creepers.....	Illustrated. 80
Pruning—Talk about.....	82
Raspberry Cultivation.....	83
Rhubarb—Cultivate.....	83
Silkworm—New Chinese.....	Illustrated. 81
Stack Stables on the Prairies.....	71
Stoves and Pipes—Care of.....	87
Subsoiling—Benefit of—Examples.....	70
Painting Buildings.....	72
Potato Man—Mr. Jones' Experience.....	III. 73
Tim Bunker on Seed.....	79
Trees—Decay of Fruit.....	82
Trees—Dwarf—How made by Chinese.....	81
Vases and Statuary in Ornamental Grounds.....	5 Illus. 84
Wheat and Chess Question.....	78
Wheat—Giant—For free Distribution.....	Illustrated. 72
Wives—The Two.....	87

INDEX TO "BASKET" ITEMS.

Accidents with Farm Implements.....	69
Acre—Profitable.....	69
Bees—Domestic Animals.....	68
Bees—Keeping out Moths.....	68
Beets—Information Asked.....	69
Birds—Larks Wanted.....	69
Botany—Wood's.....	68
Butter—Increased Yield.....	68
Carrots—Value of.....	68
Cattle—Good in Penn.....	69
Cellars—Wet—To Improve.....	69
Cement for Glass, etc. under Water.....	68
Clover Roots and Tops for Manure.....	69
Coal Oils—Valuable Property of.....	69
Corn Crop—Premium—A Query.....	69
Earthworms—Wire Worms.....	69
Grain Crop of the West.....	68
Griddles—Soap Stone not Good.....	68
Hams—To Prevent Skippers.....	68
Horses—Colic—Cure for.....	68
Horses—Herbert's Book.....	68
Imphee Sugar.....	68
Insects—Harris on.....	68
Japan Pea.....	68
Laurel Poisoning—Cure for.....	68
Locust for Timber.....	68
Manure—Hauling out Green.....	68
Manuring High—How Much.....	69
Matches—Death from.....	69
Moore's Rural New-Yorker.....	68
Onion Culture—New Edition.....	68
Onions—Crop in Danvers.....	69
Pen—New, Cheap.....	68
Poultry—Gapes—Cure for.....	69
Quince Seed—Angers.....	69
Raspberry—Autwerp.....	68
Rats—Shooting and Worrying.....	59
Seeds—Germinating Old.....	68
Seeds—Old—Vegetating.....	68
Sheep—Prolific.....	69
Sorghum Brooms.....	69
Sorghum Syrup in Iowa.....	69
Sorghum Syrup in Iroquois Co., Ill.....	68
Squash—Hubbard.....	68
Sweet Potatoes—Sprouting.....	68
Swine—Corn and Cob Meal for—Large.....	69
Trees—Protecting from Sheep.....	68
Wheat—Salting to Prevent the Fly.....	69
Wood—Green, and Matrimony.....	69

Publisher's Notices.

[For other Business Items, see page 92.]

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April.

On the monuments of classic days, April was represented as a dancing youth with a rattle in his hand. The name is generally supposed to be derived from the Latin word *aperire*, (to open,) because at this season of the year the buds of the trees begin to open. It may have had this name also from the fact, that the windows of heaven are opened anew, and the rains descend in copious showers. All nature wakes up to a new life, under the quickening influences of the returning sun. There is a new spirit abroad in the heavens above us, and in the earth and sea around us. The snows have disappeared from the hills and the valleys, and the streams are swollen by the frequent rains. In every sheltered spot, the grass springs, and the early flowers begin to appear. In the farm yards there is the opening of new life among the sheep and kine.

The dancing youth with a rattle in his hand, was not an inappropriate symbol of the month. All nature is jubilant, if not saltatory, with the return of these genial spring days. We rejoice that the Winter is over and gone. The snow banks and icicles are things of memory, and we may venture forth without furs, overcoat, or

mitten. The sunshine and bland atmosphere invite us to linger in the field, in the orchard, and by the way side. The Winter, doubtless, is shorn of much of its rigor by the appliances of modern civilization; snug houses, heated with furnace or steam pipes; railcars, steamers, and covered carriages for the traveler; warm clothing for the body, and all the varied products of the press for the improvement of the mind; still it is a period of many discomforts, and every body is glad when he may exchange the artificial warmth of the most comfortable home, for the genial rays of the sun. It is quite too pleasant to be within doors these beautiful mornings; now, there is no romance like the unwritten and voiceless volume of nature. Every sunbeam and rain drop goes wooing. We see it in the springing grass, in the swelling buds, and in the pairing birds. The blood goes tingling through our veins with new sensation of delight, and we are impatient to enjoy again the fresh air, and the sunlight.

It is a season of expectation and hope, and therefore joyous. The bosom of mother earth is open to receive seeds, and with how much of confidence do we commit the garnered treasures of Autumn to her keeping. The husbandman has an instinctive, if not an intelligent faith in the divine Providence. He buries seed by the bushel and by the cartload, in the dark earth. The precious grain which has been gathered in the sweat of his face, which is the sustenance of his family and flocks, which is his food and money, is literally cast out and trodden under foot of men. He doubts not that it shall return again, after many days, yielding thirty, sixty, yea, even a hundred fold.

No small part of the pleasures of Spring time is owing to these anticipations of harvest. As seen from this month the harvest is always bounteous. There is no drouth in May and June, to shorten the hay crop—none in July and August, to shrivel the ears of corn. There is no untimely frost, no devouring insect for grain or fruit. No uncomfortable rugged realities mar the beauty of the meadow, and the orchard. The scent of the clover blossoms and the tasseling corn come down to us like the perfume of flower gardens. We never had such crops as those we see just before us. The wheat fields never looked so grandly luxuriant, and their nodding heads were never so burdened with grain. It is easy to see that the harvest can not fall short of fifty bushels to the acre. Imagination makes corn where manure does not, and every bin and barrel is stuffed with the golden kernels. There is no rot among the potatoes, the turnips swell till they touch each other in the drill. There is no eanker worm in the orchard, no gale to shake the ripening fruit, while every branch is loaded, and every apple is innocent of worm-hole, scratch, or blemish. While such visions as these pass before the husbandman—and who does not

have them?—he feels very much like shaking his rattle, if he do not dance for joy.

Even the rains so copious in this month do not dampen the ardor of his expectation. The hail and the snow, which sometimes rattle upon his roof, do not elude the brilliant prospect. He may fret and scold, at times, but, on the whole, he takes a cheerful view of the future. If the snow is untimely, he thinks of the proverb, "Snow is the poor man's manure." He feels none the less comfortable, if he happens to be rich. He thinks of the testimony of Science, coming to the aid of the proverb, and showing that ammonia, the chief constituent of the manure heap, is detected in appreciable quantities, in all snow water. He thinks of the neglected acres, where manure, though scattered, has been very scattering, and wonders if the late snow will make the grass greener and more luxuriant. The rain stops the plow in the field, drives the workmen to shelter, chills the young lambs, and perhaps kills the newly hatched chickens, but then he is reconciled to rain as an April institution, and one of the best, in its season.

The rains, which fall east of the Alleghanies in the Spring, are almost invariably at a higher temperature than the soil, and often come from that warm belt of air that hovers over the Gulf stream, giving us tropical showers before the frost is fairly out of the ground. These frequent showers have an important influence, upon both soil and climate, and the farmer should prepare his fields to reap the greatest advantage from them. It makes a great difference in the fertility of a field, whether four inches of warm rain water is permitted to run down through it, in the month of April, or is compelled to pass off over its surface. A field underdrained, takes nearly all the water that falls upon its surface, off at the bottom. Every drop that falls goes down through the soil two or three feet, affecting mechanically, if not chemically, every particle of earth with which it comes in contact. It draws after it a column of air, which in its turn works favorable changes upon the soil. The more deeply a soil is disturbed, the more rapidly the work of amelioration goes on. Rain water, though apparently so inefficient, is a powerful solvent, and is always preparing plant food from the inert materials of the soil. A region blest with rains is always productive. A rainless climate, or where showers rarely fall, makes a desert, or a realm of dwarf vegetation. There is, perhaps, no country more favored than our own, in abundant and timely rains. A famine from drouth, like that which prevailed in Kansas, is almost unknown in our history, and probably never happened east of the Mississippi. We have occasionally short crops of hay and potatoes, when the grain, especially Indian corn, is very good. The failure of crops is only partial, and in a varied husbandry, like that which prevails among us, there is generally an abundant supply of food for the wants of man and beast.

Calendar of Operations for April, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.]

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus; *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

Though April brings greatly increased labor upon the farm, it is hailed with pleasure by the cultivator, who has waited impatiently to recommence active operations. There is now no time to be lost if every thing is not in readiness for the Spring work, which will soon demand all our energy and care.

Accounts.—Keep a regular account with each field, charging it with all expense and giving credit when the crop is returned; without this it will be impossible to tell accurately what crops or methods of treatment are most profitable. Let all contracts with hired men and others, with all sales and purchases, be plainly recorded. It will save trouble.

Barley.—Sow Spring variety, *l*, on well manured ground, thoroughly prepared. Use 2½ to 3 bushels per acre. Soak the seed 24 hours in a weak solution of blue vitriol, drying it with air slacked lime.

Birds.—Allow no harmless birds to be destroyed on the premises. Read article on page 109.

Bones.—Allow none to be wasted. Break them in pieces with a sledge, moistening them with diluted sulphuric acid, if convenient, and throw them into the heap of horse manure, where they will soon decay. If ground bones or bone sawings are accessible, use them in preference to any "patent" preparations.

Buildings.—Remove banking from the sides of the house. Repair damages done by March winds. See that eaves-troughs and gutters are free from leaves or other obstructions. Clear out rubbish from barns and sheds. Cleanse and whitewash poultry houses, and other out buildings, both to improve the appearance and prevent vermin. If vines are to be trained to porticoes or the sides of the house, prepare proper supports. A trellis made by nailing cleats to the building and passing wires through them, or nailing on cross strips, is usually preferable to attaching vines directly to the boards.

Cabbages.—For first crop set plants from the hot-bed, *ff*, *m*, in rich mellow soil, in rows 2½ feet apart, and 2 ft. distant in the row. Early York is a favorite.

Calves.—Raise enough of the best to keep the supply of stock ample. Teach them to drink when two days old. Commence with new milk, and gradually mix skimmed milk with their allowance. Shorts, oat meal, or refuse wheat ground may be given after a few weeks. Keep pens dry and clean.

Carrots.—Try a plot for winter feed for horses and other stock. Sow in drills sixteen inches apart, on heavily manured and deeply tilled soil, made fine and free from stones and lumps.

Cattle.—Allow them to exercise awhile in the open air daily, but do not turn them to pasture until there is abundant feed. If you have them, give roots with hay at the barn. Working cattle need grain, with roots to keep up their appetite. Attend carefully to breeding cows; they may need assistance. Keep them separate in roomy stalls.

Cellars.—Open, *ff*, and remove all decayed vegetables and rubbish. Use brine from emptied meat barrels for the asparagus bed or upon the compost heap. Whitewashing walls and beams is important.

Clover.—Though somewhat late it may yet be sown on Winter grain, *ff*, and it always pays. After a cold night when the ground is full of cracks, is the best time to sow. If sown on Spring grain it may be worked in with a roller, or light brush harrow.

Corn.—Have a full supply of seed of both late and

early ripening kinds. The improved King Philip is a superior early sort, for localities far north, and for replanting where the first fails. Prepare ground for planting next month, by heavy manuring and thorough plowing and harrowing when dry enough.

Cranberries.—Select for a plantation a swamp which can be flooded in Winter and Spring. Drain the surface, remove brush, stumps, and tussocks, and if practicable, cover with three or four inches of sand. It will be early enough to plant vines in May.

Draining.—Read articles in this and previous numbers of present volume, with others to come.

Fences.—Complete repairs, *ff*, particularly boundary and road fences. Use up surface stones for permanent walls. For one plan of a board fence see page 107. Plant hedges, *f*, *m*, *l*, of Buckthorn, or Honeylocust, and Osage Orange where it grows.

Grain Fields.—Clear out dead furrows which were opened for surface draining last Fall, and remove any obstructions from the outlets of underground drains. Where the grain is Winter killed, harrow or hoe over the surface and sow Spring grain. Keep all stock from grazing or trampling the fields.

Grass Seed.—Sow, *ll*, with Spring grain, and also upon any bare or thin spots in meadows.

Health.—Avoid over exertion, particularly in commencing active labor. Be cautious in laying aside winter clothing. Don't fret. Take plenty of time for meals. Eschew advertised pills, hitters, etc.

Hedge Rows.—Allow none to remain for shelter to vermin and breeding spots for weeds. Take out elders, briars, etc., by the roots, and sow grass seed.

Hired Help.—Secure their good will by just and generous treatment. By proper management they may be led to take an interest in the work. A little praise will do more than much scolding. It costs as much, or more, to hoard a ten dollar man, as one worth fifteen dollars. A skillful man will save tools, economize labor and time, much more than the extra wages. Good help is cheap at any price. Pay a hired man liberally, and he will study your interests, and stick by you through thick and thin.

Horses.—Give generous feed of grain to those used for Spring work. Clean and rub them down well after the labor of the day: friction prevents soreness of the muscles, and prepares for good rest. Use light harness—collar and traces—for plowing; and guard against chafing and galls. Train young horses to a fast walk; and be careful not to overwork them. Give brood mares moderate exercise, and roomy stalls, especially when near foaling.

Lime.—Read previous articles, and on page 104.

Lucerne thrives best on limestone lands, or deep sandy loam, and is well adapted for soiling or cutting and feeding while green. It is worth trying. Sow on well prepared ground, *m*, *l*.

Manure.—Draw out from sheds and yards, and leave in small heaps in the field until ready to spread it for plowing. Cover the heaps with soil to retain ammonia. Add to the compost heap the contents of privies and sink drains, the cleanings of the poultry house and wood shed, with whatever else can be turned to account. Reduce manure to as finely divided a state as possible, and mix thoroughly with the soil by repeated harrowing.

Meadows.—Keep out all stock from the young growth. Remove brush, or growing hedges. Scatter the cattle droppings left in lumps. Top-dress bare spots with fine manure, sow grass seed liberally and roll or harrow it in.

Oats.—Sow, *m*, *l*, about 3 bushels per acre. They make a good succession to last season's hoed crops.

Onions.—Choose a rich loamy soil, reduce it to fine tilth, work in fine manure and ashes liberally, and rake off all stones and lumps. Sow, *m*, *l*, in drills one foot apart, 4 lbs. of seed per acre. Cover lightly; weed as soon as the rows can be seen.

Plowing if well done, saves much after culture; in wet or clayey soils turn a wide furrow slice and lap each upon the next to allow room for partial drainage. Plowing in narrow ridges with deep dead furrows between, is advisable for such lands. If green sward be cross-plowed, do it very lightly, to

not disturb the sods. Deepen the soil an inch or so at each plowing.

Potatoes.—Plant, *m*, *l*, on rich mellow soil. Procure seed from a distance every few seasons. Cut the tubers and put about four eyes to a hill.

Poultry.—Feed liberally with grain and occasional bits of chopped meat. Collect eggs daily. Set the hens, *ff*, for early chickens. Provide clean nesting boxes, and movable coops to receive young broods.

Roads.—Repair around your premises as early as practicable. Keep sluiceways open to lead the road washings into the adjoining fields as manure.

Rye.—Sow Spring variety, *m*, *l*, using about two bushels per acre. It does well on good land, when following a hoed crop of the previous year.

Sheep.—Separate breeding ewes from the remainder of the flock, and give warm shelter from rains. It is injudicious to increase their feed just before lambing. With the shears remove the filth which may have accumulated around the thighs and udder, or the lamb may refuse to suck. Watch ewes at lambing season to afford any needed assistance.

Sorghum has proved a remunerative crop at the West, where corn is cheap and molasses high. Prepare the land as for corn, and plant the last of April, where the soil and weather will admit. It needs all the growing season it can have.

Swine.—Allow breeding sows to run in a field or large yard for exercise. Keep the pens clean and littered, but not too freely, or the young pigs may be overladen and killed.

Tools.—Have a full supply of your own. Examine harness, chains, plows, etc., and repair all needing it, at once. Procure improved implements. A man and team, costing for wages and food \$50 a month, may do twice as much good work with a plow costing \$12, as with one that can be bought for \$4 or \$5. Which plow is the cheapest?

Trees.—Plant for fruit at least enough to supply the household; also for shade and adornment of the lawn and road sides.

Water.—Where practicable, bring a supply directly into the house and out buildings. Cement pipes laid below the reach of frost answer a good purpose.

Orchard and Nursery.

Few things now require attention in the established orchard, if the directions given in these columns during the past year have been attended to. No extensive pruning should now be done other than removing dead branches. Better defer a general pruning until June. Unless the soil is in good heart, spread a good coating of manure about the trees, extending for ten feet each way. A free sprinkling of unleached ashes on the ground as far as the roots extend, is generally useful, especially on cold, wet soils. Lime may be used instead of ashes.

If an orchard is to be planted this Spring, let it be done, *ff*, *m*. The soil should be good naturally, sufficiently dry to need no drains, if possible, but if naturally wet, lay tiles or other drains 3 feet deep between the rows, or say 30 ft. apart. Plow deeply and subsoil, working in a heavy coat of manure. Select trees at the nursery, rather than buy of itinerant tree vendors who are strangers, with no reputation to lose, or local habitation, where you can find them. Personally attend to the taking up and re-setting, and let it be done in a workmanlike manner. Even if there is a good orchard upon the place, set a few apple, pear, peach, plum, cherry, and quince trees, around the buildings, along the roads and lanes, or in bye-places where they will injure nothing and be a real source of profit in a few years. See reports on page 110, on varieties best adapted to certain localities. Select medium size, rather than large trees.

Grafting should be attended to at once, or at least cut all the cions before the buds swell. It is better to graft cherries and pears early. The commercial nursery now presents a busy scene. Gangs of laborers are employed in taking up trees, packing for transportation, or in various ways attending to the wants of customers; others are trenching for new planting, setting out stocks,

plowing between the rows, grafting, or sowing seeds. To facilitate the filling of orders, have a good collection of different sorts heeled in, in a convenient dry spot, to be drawn from at pleasure. Label carefully, and use every precaution to keep the varieties distinct. Nothing injures the reputation of a nursery more than mistakes in this particular.

Budded Trees not cut back last season, should be topped to within two inches of the bud, unless that has dried up, in which case graft the stock.

Dwarf Trees—Set a few dwarf apple, pear and cherry trees, which will require less space and come sooner into bearing. They can be set between standards.

Dwarf pear trees especially, are desirable on small plots. About 50 of them may be conveniently grown on three rods or fifty feet square; that is, seven rows each way, the trees seven feet apart, which affords plenty of room. With a rich, deeply worked soil, and appropriate close pruning, they will yield a large amount of fruit soon after planting, and afford not a little pleasure to the cultivator. A vigorous little dwarf pear tree, so low that you can look down upon its top, and so closely pruned that you can almost encircle its branches in your arms, and yet loaded with a dozen to fifty great luscious pears, is one of the most attractive objects in a garden. They are not always to be relied upon, but in a small way are worth all the labor and care they cost. So we say, let there be one square of dwarf pears in every garden. Trees of the best sorts, advanced enough to bear in a year or two, can be had for 40 to 50 cents each, at our leading nurseries. Last Spring we set 64 trees from the nursery, on a plot 60 feet square, and though they were transplanted the latter part of May, when in bloom, every one is now alive, notwithstanding the drouth of the Summer; moreover, the half a dozen trees, which we allowed to fruit the first year, contrary to what we should advise as a rule, each bore from 7 to 20 splendid pears.

Evergreens can be transplanted now, but we have had the best success with those planted out just when new branches begin to start, say about the middle of May. Nursery-grown evergreens carefully transplanted at that time, are about as sure to live as deciduous trees.

Grafting will come in for a good share of attention in nursery and orchard. A few pence worth of cions will mend the manuers, and render valuable that good for nothing, but vigorous old nuisance, yept an apple tree.

Grape and other vines may be planted, *f, m*, and old wood layered at the same time. Provide a few of the newer good grape vines, or you will be behind the age, both in fashion and enjoyment.

Head back the pear and apple trees which are growing too up rightly. This will induce side shoots, and make stocky and much more valuable trees. One of them will be worth more than a half dozen "whip stocks" which require stakes to hold them up. An upright branch may sometimes be bent and tied down with advantage.

Hedge Plants—Honey locust, buckthorn, Osage orange, and other seed kept in boxes over Winter, should be planted, *f, m*. Dry seed will be more likely to vegetate if scalded for one minute before sowing. Cut back one year old plants, if to remain in the nursery a year longer, which will make them more bushy and better every way.

Inarching, or Grafting by approach, as described on page 117, may now be performed.

Insects—Eggs of the caterpillar are frequently seen at this season in a compact cluster, firmly glued to the twigs of apple trees. Cut or rub them off and burn them. Destroy any cocoons in the forks or under the loose bark of trees. Search out and kill any borers allowed to spend the Winter in apple or peach trees. Wash off scale, or bark louse, with a strong soap suds, or better still, a solution of one pound of potash to six quarts of water. The eggs are now under the old scales, and will be crushed, or so exposed as not to hatch, if their natural covering be removed by washing or scraping.

Manure should be used liberally, as well upon the

ground now being planted in an orchard, as about the roots of bearing trees, in the nursery rows, and on land for the first time taken for nursery purposes. It will be much more difficult to apply it when the ground is covered with trees. Manure pays as well in tree growing and fruit bearing as elsewhere. Lime, ashes, and decomposed muck are good fertilizers both in orchard and nursery.

Pack carefully all trees to be sent away.

Pits of cherries, peaches, plums, apricots, and apple, pear, and quince seed should be put in, *f*. They should have been kept in earth during the Winter, and, if so, are about sprouting. Handle carefully, and sow in rows rather than broadcast. Acorns, nuts, magnolia, and other tree seeds should be planted in the same manner.

Planting out and transplanting generally, both of fruit and shade trees, excepting evergreens, should be done in *early Spring*. Make preparations for, and begin the work as soon as the ground is dry enough to dig. Nurserymen often lose a portion of their stocks from late planting.

Plow out the nursery rows, *f, m*, turning the furrows from the trees, if the last plowing was toward them. All grounds to be planted as an orchard or nursery, should also be thoroughly and deeply plowed, and also subsoiled. It is well to keep the newly planted orchard under the plow for at least a few years after planting.

Plum Trees—Set these in a suitable place for a poultry yard, so that the fowls may destroy the curculio. Cut away any black warts found upon the branches.

Pruning—Spring is not the best time to remove large branches. The ascending sap escapes at the wound, and, running down, discolors and poisons the bark. Nor does the new growth close over it readily. Where it is really necessary to remove such branches, coat the wound with grafting wax, or better still, gum shellac dissolved in alcohol to the consistence of cream. We prefer leaving large branches until there is no more free sap, and when the new wood has already begun to form. The wound will then heal quickly and firmly, leaving sound, healthy wood beneath. Better prune at this season only with the pruning knife, for removing straggling twigs and suckers. See article on page 82, last month.

Stools, that is those shrubs kept for propagating, should now be dug about, and the last season's growth layered. Remove the layers of last year, if well rooted.

Stocks, or seedling cherry, pear, apple, etc., trees, should be planted, *f, m*, so as to get an early start. They will thus be in a better condition to bud next Summer.

Spade early among trees too thickly planted to admit the plow. A *fork* spade is better than the shovel form.

Trench ground for planting a nursery upon, if it can be done. It can not be done when covered with trees.

Kitchen and Fruit Garden.

This should be the *pet* plot of the whole farm, as by proper care it may be made the most *profitable* and pleasant department of labor. After once being properly prepared, it can be kept enriched with the sink slops and wash water of the house, and it affords an excellent school where boys may take their first practical lessons in soil culture. In it may also be tried various experiments at little cost, the results of which can be used to advantage upon a larger scale.

If at all inclined to wetness, thoroughly under-drain it; then make the soil so deep, rich and mellow, that plants will have nothing to do but grow, when once started. If in an exposed situation, protect it with a hedge of Norway Spruce or other sheltering trees, or a close board fence, especially on the north, and on the west or windward side. The south side of a high fence is an excellent place for early vegetables, and is a partial substitute for a hot-bed.

Apricots are tender, and shy bearers in most

northern localities. Plant a few by a wall or fence.

Artichokes—Sow seed, *f, m*, in rich soil, in drills two inches deep, and eighteen inches apart. When once established, the tubers left in the ground in the Fall, will keep up a supply the following year. Remove covering from old beds; divide and reset roots in hills three feet apart, *m, l*.

Asparagus—Rake off the loose manure put on for Winter protection, and fork the finer particles into the ground, *f*. Do this carefully, so as not to bruise the tender crowns of the plants. If salt is to be applied, put it on now, that it may be dissolved by the spring rains, and find its way to the roots. For new beds, procure roots, dig deeply, enrich the ground with abundance of horse manure well mixed with the soil, and set the crowns two inches below the surface, in rows one foot apart.

Basil—Used for seasoning soups and sauces. Sow, *l*, on the edge of beds; thin to six inches apart.

Bean Poles and Brush for Peas—Procure a full supply, and prepare for use. In gardens in cities, where poles and brush are not easily accessible, a trellis of stakes and twine will answer equally well.

Beets—For first use sow, *f*, or as soon as frost is out of the ground, on deep rich soil, in drills half an inch deep, eighteen inches apart. Soak the seed two days before planting. The Long Blood and Turnip Rooted varieties are considered best.

Blackberries—See directions in March No., p. 83.

Borecole or Scotch Kale is a much esteemed vegetable used for greens late in the season, after frost has acted upon it. The tall and dwarf curly sorts are best. Sow seed, *l*, in small beds of rich soil, broadcast, and rake in lightly. Water occasionally if dry. Transplant like cabbages in June and July.

Broccoli—A vegetable somewhat resembling cauliflower, but not equaling it in flavor, though liked by many. Granger's Early is a good variety. Sow and cultivate as directed for Borecole.

Brussels Sprouts—Another plant of the cabbage family, cultivated like the last two named.

Cabbage—Transplant from hot-beds, *m, l*, if the weather be warm and settled. Sow seed, *l*, in open mellow ground, and rake in lightly, for later crops. Early York is recommended for early, and Marble-head, Drumhead, and Stone Mason for late.

Carrots—Sow, *m, l*, in deep rich soil, in drills an inch deep, one foot apart. The Early Horn variety for first use, and Long Orange for late, are preferred.

Cauliflower—Transplant from cold pits, *l*, and cultivate as cabbage. For Fall crop, sow in May.

Celery—Sow White Solid variety, *l*, and treat as directed on page 115. It is a capital relish.

Chervil is an aromatic herb used in soups and salads. Sow, *f, m, l*, in drills half an inch deep.

Chives—Set bulbs, *m, l*, on edges of beds, six inches apart, two inches deep.

Cold Frames—The covers may now be removed almost entirely during warm days, to harden off the plants. Transplant hardy plants to open ground, *m, l*, and sow seeds for future use.

Cucumbers—For first use plant seeds of the Early Cluster variety, in small squares of turf, *f*; or hollow out turnips, fill with earth, and put one seed to a bulb. Keep these in a box in the house until the season is advanced enough to set them out safely. If turnips be used, cut off the bottoms when they are removed to the garden, to allow the roots to spread. Make hills six feet apart, raised six inches above the surrounding soil; sandy loam enriched with manure and ashes suits them best. Protect from bugs with covers of millinet. If this be too much trouble, put in several successive plantings of seed in the hill for the bugs to feed on until the vines have outgrown the insects, then thin to three or four good plants.

Currants should have been pruned ere this. If neglected, cut out the old knotty wood, reserving the newest and plumpest shoots. Fork in a dressing of compost among the roots. Plant cuttings and rooted bushes of the Red and White Dutch, or Cherry, Versailles, and White Grape varieties, *f, m*.

Draining improves most soils. Read article on page 105, and those in previous Numbers.

Egg Plants—Sow in hot-beds, *f*, or in boxes of earth, to be transplanted next month. The Large Purple is generally cultivated.

Fences—Repair, and paint, or white-wash.

Figs—Remove covering, *f*, *m*. Plant Layers prepared last year, *m*, *l*. Put in cuttings, *f*, *m*.

Fruit Trees—See Orchard and Nursery directions.

Garlic—Plant and cultivate like the onion, of which it is a variety. It is not much grown now.

Grapes—Remove covering from those protected during Winter. Leave them lying on the ground a few days before tying to the trellises. The buds may have swollen somewhat, and they will be less injured by harsh weather than if at once exposed by being spread over the trellis. Pruning now is dangerous to the vines, as they bleed profusely.

Herbs—Set roots or sow seeds of hyssop, thyme, rue, sage, savory, etc., on the borders of beds, *f*, *m*.

Hops—Enrich the ground well and plant roots, *f*, *m*. Choose young, small roots from fertile plants.

Hot-Beds may still be made, *f*. Choose a warm situation on the South side of a building or high fence. Make a bed of fresh horse manure six inches below the surface and two feet above; cover it with four to six inches of soil enclosed in a frame, and over it lay window sash, or even a frame of white muslin. After the first violent fermentation is over, sow seeds. As the time for transplanting approaches, give plenty of water, and ventilate freely to harden the plants.

Horse-radish—Divide and reset roots, *m*, *l*. For new beds, dig deep, enrich well, set the crowns two inches below the surface, in rows one foot apart and nine inches distant in the row.

Kohl Rabi—Sow, *m*, *l*, in shallow drills nine inches apart; transplant and cultivate like cabbage.

Leeks—Sow, *f*, *m*, on rich soil, in shallow drills, fifteen inches apart, and water if dry.

Lettuce—Sow, *f*, *m*, *l*, in rich soil, in drills nine inches apart. Cover lightly. Silesian and White Cabbage are standard sorts. The Imperial Ice Head is of excellent flavor, and its leaves are noted for crispness and brittleness.

Mannre—Finely divided manures, as bone sawings, a compost of poultry droppings and muck or chip dirt, thoroughly mixed, etc., are best for the garden. Apply them liberally—they pay.

Melons—Skillman's Netted Muskmelon, is a superior variety.—Of Watermelons, the Mountain Sweet, Ice Cream, and Long Island, are favorites. Cultivate as directed above for cucumbers.

Mustard—Sow for salads and greens, thickly in shallow drills a foot apart at successive intervals.

Nasturtiums—Sow, *l*, near a fence in drills an inch deep, or in hills four feet apart if to be left without support. They may be bushed or trellised like peas; are ornamental, and furnish good pickles.

Onions—Sow, *f*, *m*, in drills one foot apart on rich mellow soil. The Wethersfield Red, and Silver Skin are good sorts.

Parsley—The Curled variety is best. Sow in drills half an inch deep on the borders of beds.

Parsneps—Sow, *m*, *l*, half inch deep, in drills 14 inches apart, where they can remain in Winter.

Peas—The Daniel O'Rourke is the earliest variety. Sow, *f*, *m*, in rows running east and west, and when up, set a high board on the north side of each row to break off winds, and reflect the sunshine; this will forward them rapidly. Sow also Prince Albert, Napoleon, and Champion of England, for a succession. The Champion is best for a general crop.

Peppers—Sow the Bell variety, *f*, *m*, in the hot-bed, or in a box, for transplanting next month.

Potatoes—Plant, *f*, *m*, those already started as directed last month. For succession, plant early varieties, *m*, *l*, as directed under Farm.

Pumpkins—Plant as cucumbers and melons, but at a distance from them, to preserve seed pure.

Radishes—Sow in vacancies in the hot-bed, *f*, and at intervals, *f*, *m*, *l*, in the open ground for succession. They grow best on light sandy soil. Economize space by scattering them among hills of vines,

and between rows of other roots; they will be out of the way before the ground is needed. The Long Scarlet, and Scarlet Turnip are good varieties.

Raspberries—Uncover buried canes and tie to stakes five feet high, or to trellises of stakes and wire. Cutting off a few inches of the top of the cane will give vigor to the lower buds. Be careful not to break off or bruise the fruit buds. Fork in a top-dressing of composted stable manure. Fastolf, Hudson River, Antwerp, and Brinkle's Orange, are choice varieties.

Rhubarb—Follow directions given on page 83, last No., which see.

Salsify or Vegetable Oyster is well worthy cultivation where the shell-fish itself can not easily be procured. Sow, *m*, *l*, in drills half an inch deep, ten inches apart, and cultivate as carrots and parsneps. Select for seed the best roots in the ground from last year, and dig the remainder for use.

Seeds—Procure a full supply of choice kinds. Test a few in a warm place on damp cotton, placed over a tumbler of water, with the fibers of the cotton dipping into the water. Some start them early, by enclosing each kind in a cloth separately, with a paper bearing the name, and burying them two inches deep, a week or more before wanted for planting. They will swell and perhaps sprout, and thus have a good start. Soaking in water a day or two is useful for slow starting seeds.

Spinach—Uncover that protected in Winter, *f*, and market or use as wanted. Sow for successive crops, *f*, *m*, *l*, in drills a quarter of an inch deep, thinning to nine inches apart.

Squashes—The Hubbard and Boston Marrow head the list of tried varieties for excellence for Fall and Winter use. Plant, *l*, in raised hills eight feet apart, at a distance from melons or cucumbers, and cultivate in the same manner. Plant summer or bush varieties at same time in hills four feet apart.

Strawberries—Make new beds, *m*, which is, if weather permit, the best season of the year for the work. Wilson's Albany, Hooker's Seedling, Longworth's Prolific, and Early Scarlet, of the perfect flowered kind, and Hovey's Seedling, McAvoy's Superior, and Peabody's New Hautbois, pistillates, are good sorts. Rake off covering from old beds, *f*, removing it part at a time at intervals of a few days. Thin old beds and make new with vigorous runners of last year's growth.

Sweet Potatoes—Plant, *f*, *m*, in a hot-bed, to obtain sets for planting next month. See p. 115.

Tomatoes—Sow in hot-beds or in pots in the house, *f*. The Fejee Island or Perfected variety is recommended. Sow in open ground, *f*, *m*, and protect from cold with covering of straw.

Tools—Keep all in repair. After using an implement, free it from dirt, wipe it dry, and put it in its place. Examine and procure improved tools.

Turnips—Sow the Early Redtop, *f*, *m*, for Summer use. Put in drills $\frac{1}{4}$ inch deep, ten inches apart.

Winter Cherry—Sow in hot-beds, *f*, and in open ground, *m*, *l*, as for tomatoes. They come up slowly.

Flower Garden and Lawn.

The bright sunny days of April filling the air with fragrance and bird songs, remind us that the flowers now require attention. But while planning, arranging, and executing, a judicious distinction must be made relative to varieties. Some hardy sorts may very properly be planted now, while others which will not endure frost, should be left until all danger of freezing is over. Flower seeds are usually sown in the open ground too early. They may be started in boxes or pots of earth, and then be transplanted readily, when the ground is dry and warm. Our directions are based upon the observations about the latitude, at the head of this calendar. The exact time of planting and sowing will, of course, depend upon the particular location, inclination, and warmth of soil, etc.

The first requisite is to properly prepare the soil. If inclined to dampness, provide drains. Where clay predominates, cart on liberal supplies of muck

or sand. If the ground is sandy, clay will benefit it. In all cases manure well, as upon this depends much of the beauty, size, form, and colors of the flowers. This is particularly needed if the grounds are newly made with poor soil left on the surface.

In starting a new place, or rearranging the old grounds, it is important that a definite plan be made at the commencement. Let it be plainly marked out upon a large sheet of paper for a working model, and every tree planted, shrub set out, and flower plot made in accordance, instead of planting by way of experiment, and changing if it does not suit.

Annals—Hardy sorts may be sown, *m*, *l*, such as the mignonette, cockscomb, balsams, portulacaeas, candytuft, phlox, enphorbia, coreopsis, lobelia, daisy, clarkia, and larkspur of our free seed distribution; also scabious, marygold, escholtzia, hibiscus, etc. They require less covering when sown early in the season, and are often put too low in the soil. The more delicate the seeds, the finer should be the earth with which they are covered.

Borders along the lawn and elsewhere should now be manured and spaded to receive seeds and roots.

Box and Grass Edging both do better when set early in the season. Plant the box thinly, by a line, to keep it perfectly even. Trim off the lower roots and old wood of the out of ground portions. Reset box growing too quickly, and clip overgrown. Pare old edgings of grass, and renew any needing it. Use a sharp spade, or better, a steel edging knife.

Bedding Plants—A few of the more hardy ones may be set out, *l*, but most of them do better in this latitude, if left until May. Harden them off well in frames or houses before transplanting.

Bulbs—Plant out those which have bloomed in glasses. Some of those set last Fall are now in bloom. Remove, *f*, *m*, any covering or mulch allowed to remain till now. Hyacinths, tulips, and crown imperials will be in flower, *m*, *l*, and should be neatly staked up.

Carnations and Picotees—Harden off by frequent exposure, those wintered in pits, and plant out, *l*, if the weather is settled. House plants may be frequently exposed during mild days.

Climbers—Arrange Honeysuckles, Woodbines, Wistarias, and other woody climbers in their appropriate places, *f*, *m*; plant others at the same time.

Dahlias and Gladioluses yield the finest bloom in the cool weather of Autumn. Hence it is not desirable to plant many before May. A few may be put in boxes to sprout, *m*, *l*, keeping from frost.

Dicentra (Dielytra), a most beautiful flower in the border. Plant out and divide roots, *m*, *l*.

Draining is beneficial here as elsewhere. Especially should drains be laid under walks where the ground is at all wet. Read chapters on draining.

Evergreen Trees and Shrubs—These do better planted late in Spring, say middle to last of May.

Frames and Pits—Ventilate freely to harden off the plants and prepare them for setting out. Transplant from them, *m*, *l*, in warm localities, where the weather has become mild and settled. If not too crowded, they will flourish best in boxes, until the open soil is dry and warm.

Flowering Shrubs—Plant, *f*, *m*, the althea, flowering almond, azalea, chionanthus, flowering currant, deutzia, anonyms, holly, Japan quince, laburnum, lilac, philadelphus, rose acacia, snowberry, snowball, spiraea, tree peony, weigelia, etc. The early flowering shrubs will give a finer bloom if transplanted as soon as ground is in working order.

Gravel—Add to old and new walks as needed. Clean out any weeds or grass, cover with gravel, rake smoothly, and press down with heavy roller.

Hedges—Set out privet, althea, buckthorn, etc., for hedges, *f*, *m*. Defer planting Arbor Vitae, or other evergreens until next month. Osage Orange and honey locust are of too rampant and coarse a growth to form a handsome screen or protection around the dwelling yards and pleasure grounds.

Labels and Stakes—Provide an ample supply, *f*.

Lawns—Complete the new ones and sow grass seed, *f*, *m*. Instead of a mixture as formerly preferred, a single sort is now recommended, so that

the lawn may present a uniform hne. Perennial Italian Rye Grass, sown thickly, is good for this purpose. Apply liquid manure or fine barn yard scrapings as a top dressing for old lawns. See page 116.

Manure heavily all the borders and flower plots. It is vain to expect fine flowers on poor soil.

Perennials and Biennials—Plant seeds of Canterbury bells, *cobæa scandens*, evening primrose, forget-me-not, lunaria, pansy, lathyrus, Jacob's ladder, of our seed distribution, *m, l*, covering lightly. Also divide and re-set, or plant out roots of pinks, sweet williams, pæonies, lillies, phlox, etc, *f, m*.

Petunias and Verbenas—Sow seeds of mixed varieties, *m, l*. Procure plenty of rooted plants from florists and set, *l*. They make a fineshow in masses.

Prunne, *f*, shrubs and vines not already attended to. Use the knife sparingly at this season.

Roses—The almost endless variety of monthly, remontant (twice blooming), and common sorts, enables the cultivator to secure a rich profusion of bloom from these universally popular plants. They can be procured in any quantity from nurserymen, whose catalogues enumerate hundreds of sorts. The Remontant, sometimes called Hybrid Perpetual, will give the best satisfaction for hardy free blooming and handsome sorts. Plant out, *f, m*. Prune and tie those trained to trellises or pillars. Uncover tender varieties buried or tied up last Fall.

Shade Trees—Plant deciduous sorts, *f, m*. No home is complete without some of these to afford a cooling shade in Summer, relieve the eye, and partially screen the buildings. If economy is desirable, intersperse with cherry, pear, plum, and even apple trees, training them to a handsome form. They are ornamental at least twice in the season.

Tender shrubs and vines which were strawed up, or otherwise protected last Fall, may be uncovered, *f, m*, according as the season is early or backward. If the plants are quite tender and covered with a thick coating, remove a portion at a time.

Vines and Climbers—Plant, *f, m*, bignonia, clematis, honeysuckles, ivy, trumpet flower, Virginia creeper, wistaria, moneywort, etc. See that all are arranged upon permanent Summer supports.

Green and Hot-Houses.

As most of the plants will be removed to the open grounds next month, care should be used to harden them off in April. Fire heat can be dispensed with most of the time in the Green-House, and the ventilators and doors kept open much of the time. The forcing houses also will require much less artificial heat, and more air. The sun will afford sufficient warmth during clear mild days, but fire will be required at night, and in cool damp weather.

Bedding Plants—Propagate (by cuttings, layering, and dividing roots), an ample stock of verbenas, petunias, geraniums, daisies, pansies, salvias, dicentras, fuchsias, heliotropes, etc. These should be largely wanted, the latter part of the month, or first of May, for the open border. Expose by degrees to gradually harden them for the change.

Bulbs have mostly completed their bloom, and may be planted out into the open ground, where the hardy sorts will bloom another Spring.

Camellias having finished blooming, should be pruned into shape and kept free from insects and in a growing state. Propagate from cuttings.

Cape Bulbs in flower should be brought forward to the light and have plenty of air to encourage the growth of healthy flowers. Keep them from the direct rays of bright sunshine to prolong blooming.

Cuttings—Now is a good season for increasing the stock by cuttings. In the commercial house it is especially needful, as a large drain will be made upon the stock at planting time. Fuchsias, geraniums, myrtles, hydrangeas, camellias, jasmines, salvias and most other plants may be made to strike freely under glasses, with a steady bottom heat.

Flowers—The houses should still show a good bloom, if proper care was used in the Fall and early Winter, to check the blooming season of a portion of the plants by pinching back.

Fuchsias—Increase the stock of this elegant flower by inserting a large number of cuttings. Both single and double sorts are very pretty—and the latter still scarce.

Grapes ought to be growing finely now; new shoots should be tied up as they extend. The earlier forcing plants have already set their fruit, and the berries are of sufficient size to require thinning. Cut back the laterals above the bunches to three leaves, and remove shoots between the bunches and the main cane. As the berries swell, support the shoulders of the bunches by tying to the canes above. Syringe freely, adding sulphur to the water to prevent mildew. Some of the vines have only burst their buds, and need little care at present.

Head down shrubby plants that are stunted in growth and not thrifty; at the same time shift to new pots and cut out diseased roots.

Insects will increase rapidly, if not kept in check at this season. Hand pick, fumigate with tobacco, and syringe with oil soap and water.

Inarching, as shown on page 117, may be performed upon many of the woody plants.

Mildew can be effectually prevented by the free use of sulphur.

Potting will require some attention, putting the plants in pots of sufficient size for Summer growth. Annuals sown last month may now be transplanted.

Prune thoroughly all plants of feeble growth, cutting them back to good shape. This will often put new vigor into them.

Seeds of desirable green and hot-house plants, such as geraniums, oleanders, aloes, caetuses, mimosas, euphorbias, cinerarias, solanums, etc., etc., may be sown now in pots, plunged in the bark-bed, and covered with bell glasses, or in their absence with a pane of glass laid over each pot. Water them occasionally.

Shifting—When plants need more room, change them to larger pots on a mild day. Cut away dead or diseased roots. Place an inch or two of lumps of charcoal or broken crocks upon the bottom, set the plant with its ball of earth upon these, and fill around it with fresh soil. Give fresh earth to plants that do not need transplanting.

Water freely rapid growing and succulent plants, which require more moisture than woody sorts. Add a little guano to the water given to lagging plants.

Apiary in April.

BY M. QUINBY.

Many moth worms may now be found helpless on the bottom board in the morning. They should be destroyed, to prevent future harm from their progeny. Most of the parent worms have now finished their mischief, and want a place where they will not be disturbed, to wind themselves up in a cocoon to undergo the change to a winged insect in safety. At no season are they so easily found as in this month and next, by just raising the hive. When the weather becomes warmer they will creep into some hiding place.

In nearly all sections, stocks with scanty stores, can not yet gather sufficient from the flowers. Feed them regularly, and see that they are not robbed.... Look out for robbing to commence on the first real warm days. A little fighting will result in no great harm if the entrances are properly graduated in accordance with the strength of the colony. The resistance indicates strength and courage. But when the honey is being carried off, without molestation, it is time to assist them. Among the numerous remedies, for the inexperienced, perhaps moving the stock being plundered, a mile or two, is as little trouble as any. After all danger of robbing is past, it may be returned.

Any one intending to introduce the Italian bees into his apiary this Summer, should make arrangements for it now. Without the movable comb hive of some sort, very much of the satisfaction will be lost. After introducing a queen of this new variety, for which a high price has been paid, it is quite natural to want assurance of the safe-

ty of her majesty, as there are some cases where our native bees are decidedly opposed to "foreign" rule. With the movable comb we can look over the bees, and find her in a few minutes, at any time. But with the box hive—except by the merest chance—we should have to wait several weeks for brood, or spend an hour or two in driving them out, and looking them over to find her. The frame hive is also very convenient for propagating queens: it gives access to the brood without entering the combs, and the same combs may be used several times by returning to the hive after the brood hatches.

I would not recommend transferring bees together with their combs for the sake of a better hive, as a profitable business, but any one wishing a few colonies in the movable comb hive for the sake of better studying the habits of the bee, or introducing the Italian queen the present season, will find no better time than the present to make the transfer. There are now but few bees, and little brood in the way. With a suitable room, it can be done some rainy day. If possible, select for the operation such as have straight combs. Invert the hive, and drive all the bees that will go, into a hive that has been made comfortably warm. Now pry off the side of the hive and take out the first comb, and lay it carefully without bruising on a few thicknesses of folded cloth. Lay on the frame in which it is to be fitted, and mark it the exact size. Cut it out, and keep it in the frame by winding wrapping twine around the whole. Keep the frame perpendicular, that the comb may rest on its edge. Put all the combs in the same relative position as before, that the brood may be all together. When all is arranged, and the frames in their places, the bees may be shaken out directly on the frames, and the cover to the honey boxes set over to keep them from flying. They should be kept warm for several hours, or until the bees have gone among the combs. If any bees be on the windows, brush them into a box, and keep them until the first are quiet, when they may be introduced in the same way. All dripping honey should be taken up before they are returned to the stand.

Giving Premiums, Seeds, etc.

Two or three agricultural journals, not specially noted for enterprise or success, are out against the policy of giving premiums, distributing seeds, etc., and one of them goes so far as to class it next door to bogus jewelry and gift enterprises. This is far from the general opinion and practice, as many of the leading agricultural publishers have gradually adopted the plan—even those, who a few years since were londest in repudiating it. Taking it for granted that only good and useful articles are offered as premiums, and only good and desirable seeds are distributed, the case stands thus:

Cultivators, as a class, are not disposed to read about their own business; those who decry premiums are quite as strong as others in their complaints and appeals on this score, and they themselves offer commissions to agents and others who will take the trouble to look after the non-reading class, and persuade them to try the effect of reading a good journal for a year. Others choose to offer valuable implements, books, etc., as commission or pay for the same thing. The advantage of the latter mode is, that the publishers usually have facilities for obtaining the articles wanted, at low rates, and thus are able to pay more liberally. If the recipient of a premium gets a good article that he wants, and chooses to work for, it matters not to him how low it was obtained—the lower the better for him.

In reference to seeds, there can hardly be a question. A wide-awake, intelligent editor has ample facilities for securing good standard and new seeds, and can distribute them among his readers at a tenth of what they would cost, if bought in the ordinary way. An editor, if he be willing to take a little trouble, can thus by a wholesale operation, send for a few pence, four or five parcels of seed to each of his readers, which many of them could not obtain except at large expense, and perhaps not at all. A wide diffusion of the germs of good field and garden crops is thus secured—to the manifold benefit of the country.



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Many Letters are on our desk, containing questions and suggestions of importance to the writers and others. We will answer them just as fast as time and room will allow. More than this we can not do, notwithstanding the urgent and even imperative requests of some of the writers. With the Summer before us, and room for 50 to 75 basket items, and half as many articles in each number, we hope to attend to all these and others that come in.

Loss of Appetite in Horses.—R. D. Patterson, Lawrence Co., Pa. asks how to improve the appetite of horses that refuse to eat when worked hard. Such animals are probably overworked. Occasional feeds of carrots given with oats, aid in keeping up the appetite.

Disease among Stock.—Isaac Loveland, Jasper Co., Iowa, thus describes a contagious disease, known as "Sore Tongue" now prevailing among horses, cattle, and hogs in that vicinity. The first symptoms are stiffness of the jaws and frothing at the mouth; the nose, lips, and tongue become very sore, and the skin peels off. A strong solution of copperas, borax, alum and saltpeter, in warm water, applied two or three times a day has given relief.

Consult the Calendar of Operations.—Our readers will find a great variety of useful hints for the season, in the preceding calendar. It has been prepared with much labor, and contains a vast number of items in a condensed form. The directions must, of course, be varied to suit the different localities.

N. B.—Defective Seed Envelopes.—Envelopes, properly stamped, and directed to the following persons, have been received; but no figures or marks give the least indication as to what kinds of seeds are wanted, and we must hold the envelopes for directions: B. F. Hughey, Mo.; R. A. Killam, N. H.; B. C. Black, O.; H. Brumbaugh, Pa.; I. B. Lewis, Pa.; O. Comstock, N. Y.; C. Y. Erchenberg, Pa.; A. P. Rowe, Va.; E. Wiley, N. J.; E. Griffin, L. I.; Jno. Youngson, P. M., Ill. (2); T. Dorape, Ind.; J. Broad, Mass.; M. Warner, Mass.; J. C. Davison, N. J.; L. Valentine, Boston; Geo. Wolf, Wis.; S. R. Freeman, Ill.; Rev. B. Halsted, Miss. Several other envelopes have stamps and numbers, but no address (one of these appears to be from Kewanee, Ill., another from Newton, N. J., and 2 others from White Cloud P. O. The rest have no marks.)

Send for the Seeds Now.—From the immense number of seeds sent out, we judge that most subscribers have sent in for them, but we have not yet had time to check off the lists. Any present or new subscribers not having applied will please refer at once to our revised list (page 123,) and make application immediately, observing the regulations—See next 2 items.

Send two lists of Seed Numbers.—We have left out from our list of seeds, (page 123) such seeds as we are running short of, and can not be replaced. Lest other kinds should run short towards the close of the distribution, those sending envelopes, hereafter, should put the 4 or 5 kinds wanted on the upper left hand corner, and on the lower left hand corner add a second list of a few kinds to be selected from in case any named in the upper list should be exhausted. Of most kinds we shall have enough for all subscribers yet applying.

Seeds Not Sent by Express.—Many subscribers at a distance have asked seeds by express, where this mode of carriage would be much costlier than by mail. (No package can go to the Western States for less than 50c.) In such cases, we have sent by mail, trusting that those receiving them will refund the postage we have prepaid for them, or make it up in sending new names of subscribers.

No More Microscope Premiums.—The 250 microscopes provided (premium J page 122) are about gone. As they are only made in Paris, France, we can not get a new supply in season for this year, and this premium (J) is therefore discontinued.

Insect Powder—Coal Tar.—This article, advertised elsewhere, it is claimed has proved useful. Our experience has been different. The advertiser claims that the article furnished us was from the first made, and was not right. It may be so, and at his request we will try it again this season and report the result. We took

the advertisement with the express understanding that this notice would be inserted.

Dwarf Broom Corn.—Geo. Smith, of Tuscarawas Co., O., speaks in the highest terms of this, as do many others. We can not add it to our list the present year—the list is inconveniently large already. We have a little seed but it must be put with some other varieties to be given out only in special cases, as, for example, when persons send in new subscribers.

Dead.—"Miner's Rural American" departed from a troublesome life on February 23d. We regret that it was unworthy to live, and sympathize with those who lost their money by paying in advance.

Endorsing Advertisements.—R. E. M. We do not endorse every thing said by advertisers. There are some things advertised in this journal which we would not care to buy, some books, manures, etc., for example; but our constant aim is, to admit no advertiser whom we do not think will fulfill all he promises by advertisement. Humbugs, cheats, unreliable dealers, etc., are excluded.

Cure for Potato Rot.—Daniel Rhoads, Frederick Co., Md. We have no faith in the "sure cure" advertised in this city. It savors of humbug. After diligent inquiry we have not been able to find the advertiser. The people at the office where he hails from "don't know him."

Gift Enterprises fare hard in Kentucky.—A man was recently fined \$100 in the Brecken Circuit Court, Ky., for selling chances in a Gift Enterprise set on foot in New-Jersey. The counsel for the defendant vainly tried to escape the penalty, on the plea that the engravings were worth what was paid for them, aside from the extra chance for a big prize, which was of course the principal inducement for purchasing the picture. Good for Kentucky law, and Kentucky Judges.

Plowing for a Drain.—J. A. Pollock, Huntingdon Co., Pa., writes that a drain for tiles may be opened with a plow, almost the required depth, by means of a chain, about eight feet long, between team and beam.

Cost of Draining.—An old subscriber of the *Agriculturist*, in Rensselaer Co., N. Y., referring to the draining of Messrs. Maxwell & Bro. at the cost of \$100 a mile as noticed on page 6, Jan. No., says that in August last he employed a person recommended as the best drainer in Albany, to lay tiles on about 3 acres of hillside, soil a rich loam, and the cost, as per agreement, was as follows: 25 rods 7½ inch tile at \$1.80=\$45; 13¼ rods of 6½ inch tile at \$1.30=\$18.97; 127 rods 3 inch tile at 50 c. per rod \$63. Total cost \$151.97, or at the rate of \$228 per mile. [If the whole had been 3 inch tile the cost would have been but \$160 per mile; while if it had been 2 inch tile, the size most generally used, the cost would not have been greatly above that of the Maxwells.—Ed.]

Night Soil—Leached Ashes.—H. A. Trench, Eaton Co., Mich. The leached ashes thrown into the privy vaults in large quantities would absorb the liquid and somewhat diminish the odors. They would probably not contain alkali enough to expel ammonia. Leached ashes, muck, or even good soil mixed freely with the night soil will aid in its removal and application.

Manure Cellars under Barns.—Robert Hutchinson, Ashtabula Co., O. They can be so constructed as not to affect animals above, by having close double floors, and an outside opening. See description of our own barn, August number, 1860.

Cider Pomace for Manure.—Chas. W. Bradley, New Haven Co., Ct., and others. Apple pomace, like other organic materials, is doubtless valuable as a fertilizer, and worth sowing and using. We have no means of estimating its exact value. The best mode would be to mix it with manure in the yard. Unleached Ashes or lime in moderate quantity would doubtless improve it by destroying the large amount of acids. If not convenient to compost it with manure, it may be applied to the soil, after the use of ashes and lime, and be then plowed in.

Sowing Winter Wheat in Spring—Club Wheat—Smut.—J. C. Bishop, Fond du Lac Co., Wis., writes to the *Agriculturist* that he has frequently sown small quantities of winter wheat in Spring, and obtained a good yield the same season, by putting it in very early and wetting the surface of the ground thoroughly, so that the wheat will be soaked and frozen. It starts early and matures. He intends treating the "Giant Wheat," received from us, in this manner, and expects to ripen it. He says the Club Spring Wheat which has been much grown there, is running out.—He prevents "smut" by soaking seed wheat in strong brine, and drying it with fresh slaked lime. This was practiced as long ago as we can remember, and with almost uniform success. This hint alone, which we published some time since, gave 50

bushels extra of good wheat to one of our subscribers. A similar field of 10 acres, not so treated, was filled with smut, and every way inferior.

Lime on Seed Potatoes.—Several subscribers speak of good results from a method described in the *Agriculturist* some time ago, which was, to cut the potatoes, roll them in fresh slaked lime, and let them lie six to ten days before planting. The reports are, that potatoes so treated sprout sooner after planting, grow more rapidly, and are not affected by rot. This looks reasonable; the lime corrects acids in the cut tubers, and what is probably of most utility, the alkalis assist in decomposing the organic matter around the seed, and thus immediately supply more nourishment.

Grass Seed with Oats.—"D." Hempstead. Seeding with oats is often successfully practiced, though sowing with winter grain is generally preferred. The White Poland Oats are an excellent variety.

Carrot Seed per Acre, etc.—J. L. Abbott, Ross Co., O. Better use about 2 lbs. seed per acre to be sure of enough. Sow in drills 16 to 18 inches apart, and thin to 4 or 6 inches distant, according to the variety.

Ashes on Sandy Soil.—H. M. Atwater, St. Lawrence Co., N. Y. Your sandy soil, which has been over-cropped without manure, would doubtless be benefited by bringing up an inch or two of the subsoil, applying a coat of ashes, or lime, sowing clover, or clover and timothy, and afterwards turn this under. In this way organic matter will be restored to it from the air. Alkalis (ashes or lime) are worse than nothing on light warm soils, unless you turn under manure or green crops.

Madder.—(*Rubia Tinctoria*)—Mrs. Mary I. Hale, Trempealeau Co., Wis. Madder is grown to considerable extent in Ohio, but we question whether it will succeed well in your latitude (44°). It is raised from both seed and roots. The seed can be had of seedsmen at about \$1 per lb.—the roots from persons growing them. The roots are perennial and are the portions containing the coloring matter. Plant roots in August or September, in deep soil, and sow seed in early spring. Growing plants may also be set out in May or June. The roots are used to extract color when two and three years old, and nearly the size of one's little finger.

Hedge Plants—Distance Apart.—N. S. Du Bois, Oregon. Set thorn and honey locust, osage orange, and buckthorn, 1 foot apart for hedges, and cut back one half when two feet high, to make them branch.

Planting Locust Seed.—Martin Allen, La Salle Co., Ill., plants locust seed in the spring at corn planting time. He first pours boiling water on, and stirs the mass thoroughly, and plants as soon as the seed is dry enough to handle. He says, all good seed treated thus, will grow. He has some fine groves, where the seed was dropped in the hills with corn.

Fruit Outlines.—S. M. of Calmdale, Pa., communicates to the *Horticulturist* his plan of taking fruit impressions as follows: Cut the fruits (apples, pears or quinces) lengthwise; cover the cut side with ink, and press it firmly upon white paper, stem and all. Under the outlines thus made, make such notes of the time of ripening, name of variety, etc., as are desirable, and paste the whole in a book kept for that purpose.

Fruit on Hillsides.—Geo. Thomson, Mich. Steep hillsides may be set with fruit trees, especially apples.

Grafting Wax.—J. McMeekin, C. W. The wax described in a previous volume is made of 2 lbs. rosin, 1 lb. beeswax, with tallow or lard sufficient to soften until it can be readily applied with the hand. Some grafters prefer 6 lbs. rosin, 1 lb. beeswax and 1 pint linsced oil.

Stuartia and Wistaria.—J. G. Hovey, Buchanan Co., Iowa. *Stuartia pentagynia* is propagated by cuttings and layers. Parson's catalogue offers it at 75 cents per plant. *Wistaria* or *Glycine* is propagated in the same way, and costs 35 cents per root. They can be sent safely by express, adding say 25 cents for packing.

N. Y. State Agricultural Society.—The following officers for 1861 were elected at the last meeting of this society, viz.: President—Hon. George Geddes, Onondaga. Vice Presidents—1st district, John Jay, New York; 2d district, Benjamin F. Camp, Westchester; 3d district, Herman Wendell, Albany; 4th district, John A. Corey, Saratoga; 5th district, Solon D. Hungerford, Jefferson; 6th district, Ezra Cornell, Tompkins; 7th district, D. D. T. Moore, Monroe; 8th district, Samuel W. Johnson, Cattaraugus. Corresponding Secretary—Benjamin P. Johnson, Albany. Recording Secretary—Erastus Corning Jr., Albany. Treasurer—Luther H. Tucker, Albany. Executive Committee—T. C. Peters, Genesee; N. Lapham, Clinton; John Winslow, Jefferson; E. Sherrell, Ontario; Samuel Thorne, Dutchess.

Steaming Food—Pipes under Ground.—P. C. T., of N. H. Steaming roots, and especially hay and straw, is highly useful; but you can not carry the steam 100 feet under ground in a small pipe. In a large pipe, well enclosed in a non-conducting material, you might carry it 50 to 100 feet, but in the manner you propose, the steam would condense, and soon clog the pipe.

Hemlock Branches for Sheep.—Alfred Pascoe, Wayne Co., Pa., inquires if hemlock branches in small quantities are injurious when fed to ewes with lamb, as is done in some sections under the supposition that the health of the sheep is thereby promoted. We know nothing on the subject from observation, but the practice would seem to be of very doubtful utility.

How Sheep were Saved.—A. W. Hillman, Salem Co., N. J., relates that a neighbor, fearing the loss of his sheep by dogs, partly roasted a piece of meat, and trailed it around the field just inside the fence. In the evening he set up small stakes in this trail, several rods apart, on each of which was placed a piece of meat charged with strychnine. In the morning several dogs were found resting in the field, with no further thoughts of sheep-killing, and he had no more trouble from them.

Sheep Profitable.—Mr. Bushnell, of Berkshire Co., Mass., says that he has been engaged for 30 years in sheep-husbandry, and has thereby raised the value of his farm 50 per cent. By constructing cheap sheds on wheels, so as to be moved to different parts of the farm, and by placing a little salt under the shelter, any part of the pasture can be enriched, as the sheep when they are not feeding, will stay under the shed. Mr. B. plows his land and seeds it to grass once in three years.

Chester Co. Hogs.—A. M. S., East Cleveland, considers these superior to either the Byfield or Suffolk. He states that last season, Chas. Clark, of Pilesgrove, N. T., slaughtered 50 Chesters, 18 months old, weighing as follows: one 396; twenty two, over 400 each; twenty five, over 500; one over 600; one 1015!—total 23,311 lbs. The last two we judge must have been over 18 months old.

Horses Stabled with Cattle.—Subscriber, College Springs, Iowa. No harm need be apprehended from stabling horses and cattle in the same building, provided the ventilation be sufficient to remove all offensive odors. There is nothing prejudicial to the health of horses in the mere presence of cattle under the same enclosure.

Birds and Bees.—"Subscriber" asks if any one can give positive proof that king-birds and martins destroy bees. He states that last season he saw many of these birds busy about a field of buckwheat which was sowed for the bees, but that he could find no bees in the gizzards of those he shot for examination. On the contrary, he discovered great numbers of millers and other destructive insects which the birds had eaten.

Glass Boxes on Bee Hives.—D. Pangburn, White Co., Ark. These should be put on the hives in the working season. Bees will not always work in the boxes until they have filled the hive with honey. A false cap or box should be put over the glass boxes to darken them.

Prolific Bees.—J. G. Thompson, Minn., writes that in 1859 a neighbor had a hive of bees which threw off a swarm early in May; the young swarm, (No. 2,) sent out a colony, (No. 3,) about the first of July; and in August a young swarm, (No. 4,) issued from No. 3, and all wintered well.

Turnip Fleas.—T. J. Swan, Meade Co., Ky., inquires for a remedy for these insects which have destroyed his cabbage, cole, broccoli, etc., and against which he has vainly used tobacco decoction applied with a syringe, uric acid, coal oil, tincture assafoetida, quick lime and ashes!—Try a hen and chickens. Keep the hen in a portable coop, with openings large enough to let the young chickens hunt the insects. Move it to a new place every few days. Please communicate the result.

Aphides on Apple Trees.—H. Mariton, Cumberland Co., Me. Syringe or dip the twigs of your infested trees in a solution of whale oil soap, strong lye, or tobacco water, either of which will kill the green lice.

White Worms in Apple Trees.—Henry Schepfer, Owen Co., Ind. The worms you speak of between the bark and wood of your trees, are borers, (*Saperda bivittata*), and unless destroyed will kill your trees. See page 83, March No., and pages 143, 218, 274 and 333 of last volume, for remedies.

Corn Cobs for Wire Worms.—A. M. S., East Cleveland, O., recommends to plow plenty of corn cobs into land infested with wire worms. The idea is, we suppose, that the worms will burrow in the cobs, and leave the crops unmolested.

Propagating Willows.—Mrs. E. Cravorth. The willow is one of the easiest trees to propagate. Make cuttings at any time, from the fall of the leaf to budding out in Spring. Insert them in light soil, early in April, and most of them will grow.

Magnolia Hardy in Missouri.—A. Waller, Clay Co., Mo. The *Magnolia tripetala* and some other varieties will prove hardy with you. Holly is also hardy.

Dwarf or Shrub Grapes.—W. C. Aber, Catahoula Co., La. Cuttings received, and hope they will live, although quite dry. If wrapped in oiled silk they would have dried less.

Retarding Fruit Buds.—J. W. Deeble, D. C., says a friend of his delays the blossoming season of trees coming forward too early in Spring, by removing the surface soil about their roots until all danger is past. He saved his fruit while his neighbors lost theirs.

Renovating Peach Trees.—The editor of the New-England Farmer, has renovated diseased peach trees thus: he removed the soil from around the trunk of a sickly tree in his garden, and supplied its place with charcoal. He was surprised at the rapid growth of the tree, as well as the tenacity with which the fruit held on the branches, and the unusual richness of its flavor when matured.

Fruit Trees Branching Low.—J. W. Brokaw, Marion Co., Ill. It is better to have fruit trees branch low, especially for prairies. If such cannot be had, cut off the leaders of the most stocky, when placed out in Spring. It is not advisable to cut off the whole top, or main stock.

Norway Spruce Hedges.—Thos. M. Crawford, Bourbon Co., Kansas. The Norway Spruce is a quick growing tree, and makes a fine ornamental or sheltering hedge, but not proof against animals. When practicable, it is better to buy the young trees from a nursery, than to wait for them from seeds. Seeds can be sent by mail.

Apples, Pears, Peaches, etc., from Cuttings.—Ed. Russell, Doniphan Co., Kansas. Cuttings of the above can sometimes be made to root and grow in the hands of skillful propagators, but without special care they fail even with these. It is better to graft the cions upon native stocks. In quality we rank the Delaware grape ahead of the Diana, although the latter is a fine grape, and larger and sweeter than the Delaware.

Cranberries.—J. B. Gallap, Jefferson Co., Wis. Your muck land, which is annually overflowed, will make a fine cranberry field. If you can cover with one inch of sand it will improve it. Plant with the bell variety, two feet apart, early in April.

Standing Cypress.—Wm. J. Bassett writes from Franklin Co., Mass., that he has wintered this plant, variously known as *Cantua coronopifolia*, Gilia, and sometimes Ipomea. Mr. B. has grown it for several years, but finds it rather tender.

Blackberries, etc., from Cuttings.—"Subscriber," Lyncoming Co., Pa., will find it a difficult task to obtain the above from cuttings. Pieces of the root will often grow, especially with a bottom or hot-bed heat.

Buffalo Berry.—*Shepherdia Canadensis*. J. C. Allen, Lucas Co., O. The flowers of this shrub or small tree, are delicious, and it is likely both of yours are sterile, requiring one of the opposite sex to produce fruit. The berries are of little value.

Single Flowers made Double.—F. M. Dearborn, Ironquois Co., Ill. A change from single to double petals is brought about by high culture. Seeds from the most perfect flowers are saved and sown upon rich soil each season. It is usually several years before a fixed change is effected; and even then there is a tendency to return to the original form unless under good culture.

Petunias.—C. Russell, writes that the petunia seed distributed from the *Agriculturist* office last season, produced the finest flowers he has seen, with all shades, from deep crimson to pure white, and that they are worth ten times the cost of the paper.

Chinese Wistaria.—Mrs. E. C. Angel, Marion Co., Iowa. The wistaria is propagated by cuttings or layers. It is a woody climber of much beauty.

The Allen Raspberry.—Mr. Meehan, editor of the Gardener's Monthly, says that a neighbor of his had a plot of this raspberry under 100 feet square, from which he sold over \$200 worth of fruit. The reports upon this variety differ greatly. Some speak of it in the highest terms, while others reject it entirely.

Lawn Grass.—E. E. Welbon, Jefferson Co., Ill. The preference now is for a single variety of grass for the lawn, and nothing suits us better than the perennial Italian Rye grass, to be had at almost any seed store.

Cast Iron Trellises.—These are now made, of various forms and sizes for pot plants, shrubs, vines, etc. They are cast with branching arms, somewhat resembling a hat stand, and are forced into the ground. Short cross pieces near the bottom keep the trellises upright.

Preserving Fruits—Nyce's Method.—Coolness of temperature (34 to 36 degrees), dryness of atmosphere, and freedom from unpleasant odors are the essential points to be aimed at. To secure coolness, he constructs a chamber of iron or zinc, with walls, say three feet in thickness, filled in with dry sawdust, or other non-conducting material, and places above, an ice room large enough to preserve ice during the whole season. For drying the atmosphere he uses chloride of lime, which rapidly absorbs moisture; he brings all the air of the chamber in contact with the lime, by means of a fan which is moved by a wind wheel on the top of the house. For purifying the air, fresh charcoal is kept about the room.

Detecting Poisonous Mushrooms.—George Drew, Macoupin Co., Ill., alluding to the article on page 47, Feb. *Agriculturist*, says the difference between poisonous and wholesome mushrooms is easily told by breaking out the stem, and putting a little salt on the under side of the cap. If good, the color will turn reddish, but if poisonous, the color remains white, and the vegetable should be discarded. [This does not appear plausible—it may be useful.—Ed.]

Out Door Whitewash.—W. Montgomery, Montgomery Co., Pa. Full directions for a good, durable whitewash were given in Vol. XVIII, pages 136 and 197 (May and July Nos.).

One Package of Seeds.—A. A. Pierce, Caledonia Co., Vt., writes that last year he raised over 300 bushels of White Poland Oats, all derived from a single package sent from the *Agriculturist* office three years ago, and that probably not less than 5,000 bushels will be raised from that seed in a single county this year.

Evergreen Book.—Benjamin Henry, Richland Co., O. Warder's Hedges and Evergreens (\$1) is a pretty good descriptive work, but defective in directions for raising from seed. In this particular Meehan's Ornamental Trees (75c.) is preferable.

Securing Valuable Reports.—The Secretary of the Ohio State Agricultural Society has by direction of his Society sent blanks to Secretaries of the various County Societies, in which they are requested to record monthly the state of the growing crops, the condition of stock, the amount and prices of old crops on hand, with any other matters of general interest to farmers. The blanks thus filled, are to be returned to the Secretary, and published by him in all the agricultural papers of the State. By this means, much reliable information may be obtained.

The Scientific School of Yale College is now in possession of their new building, lately presented to the college by Joseph E. Sheffield. It cost \$40,000.

Cause of Smut.—J. G. Thompson, Minn. The blight called smut, is a fungus or parasitic plant, the minute seeds of which lodge upon various grains, germinate, and appropriate the substance of the kernel. To prevent it, soak the seed eight or ten hours in brine strong enough to float an egg, drain it well, and shovel it over with fresh slaked lime until each kernel is well coated. Of course, it should be sown within a day or two after preparing it.

Soaking Barley Seed.—A writer in the *Home-stead* recommends that seed barley should be steeped before sowing, in a solution of copperas, or blue vitriol, the same as is often done for wheat, and then rolled in plaster enough to dry it. He says it gives the seed a rapid start, and makes it come up strong and dark-colored.

Salt for Swine.—A correspondent of the *Annalen der Landwirtschaft* states that he selected two pairs of barrow hogs, weighing 200 lbs. apiece, and gave to one pair two ounces of salt with their daily allowance of food. To the other pair, he gave the same kind of food without the salt. In the course of a week the salted pair had a much stronger appetite than the others, and after a fortnight the salt was increased to two ounces a piece. At the end of four months the salted hogs weighed 350 lbs. each, and five weeks later, the unsalted ones weighed only 300 lbs. a piece. This experiment is suggestive.

Value of Sorghum.—Reports from various parts of the West show that 2,500,000 gallons of Sorghum Syrup were made on Cook's Portable Sugar Evaporator last year! This syrup, at 40 cts. per gallon, gives a saving to the farmers of the West of \$1,000,000.

The Word Elgin is usually pronounced as if written *Eljin*. We believe the proper pronunciation is with the hard sound of g, as in begin; thus the *Elgin* marbles, not *Eljin*; the steamship *Elgin*, not *Eljin*.

What the Humbugs are Doing.

That "Japanese Wheat" Swindle.

Abundant evidence has been received of the necessity of our article exposing this humbug, (see February *Agriculturist*, page 38.) A great number of persons have already written that the caution was just in time to save their dollars. The circulars appeared so plausible, and the seed so wonderful, that though many feared a eat in the meal-bag, (or seed-bag,) yet they were disposed to venture a dollar in hopes that there might be *something* in it, at least. The *Agriculturist* now goes to nearly five out of six of all the Post Offices in the States, Territories, and Canadas. When, by advertising, by the offer of premiums, etc., we can push one or more copies into *every* neighborhood, we hope to be able, by timely warnings, to circumvent seed swindlers at least; though it is next to impossible to keep up with the operators. A few shrewd rascals, one or more of whom are behind the scenes in all these swindling operations, are continually turning up in some new enterprise under a new name, and they will continue to do so until their ardor is checked by a diet of bread and water, within stone walls.

The Humbug upon Editors

proves to have been more extensive than we had even supposed, as is shown by an increasing number of letters of inquiry from various parts of the country. One editor writes us, that by various "failures" and other subterfuges, such as the plea of hard times, etc., he has been cheated out of more than half of the promised pay for all the advertising he has done during two years past. (From the character of the advertisements he has published, we can hardly pity him—we do pity his readers.) A few days ago an editor came here to buy printing materials with the avails of large advertising bills and notes for advertising, which he fully expected to collect. Instead of buying type, etc., he actually had to borrow money to get home with. We hope he will take the hint from this, and return us the money borrowed, though we let it go partly as an act of *charity*—hardly hoping to get it again. (N. B. All! After this notice, we shall have no more money to loan or give away in any such case. If any one comes with \$500 worth of advertising bills to collect, let him bring money enough to get home with.) We will only add, that we have discovered at least two other advertising concerns, which appear to be of the same character as the one described last month, page 72.

The "Hard Times" Jewelry Dodge.

Only yesterday we overheard one lady telling another, in the ears, how cheaply she had just bought several coveted articles of jewelry. She said: "A large house in New-York, to avoid failure, on account of the 'hard times,' had sent out a man to her village to sell off a lot of valuable articles for what he could get, and he was disposing of them at one quarter their value." Etiquette did not allow us to say anything, but if that lady sees this, she will learn that the "five dollar article" which she bought for \$1, is *gilded* (galvanized) brass, or "oreide"—manufactured at a cost of 17 cents! And this leads us to say that, just now, there are several scores of bogus jewelry concerns in this city, and they are turning up in almost every large town and small village throughout the country—under the "Hard Times" cloak. When one of them opens a temporary "branch of a New-York House" in your town, better pass by on the

other side. All is not gold that glitters. Ingeniously colored glass is not precious stones or pearls. Gold is always *worth* its weight in coin, and more, when manufactured. Nobody sells \$5 worth of gold manufactured, for \$1 in coin. (See December *Agriculturist*, page, 357.)

"Hard Times" Tree Sellers.

We hear that several tree sellers are abroad, claiming to be "agents" of some of our leading nursery establishments, and offering to contract to deliver trees at half price and less, on the plea that owing to "hard times," the proprietors are willing to supply stock at any price, "for just this Spring." We believe all reliable dealers are willing to furnish trees and plants at fair and even moderate rates—but when a peddler offers trees at less than it would cost to take them up and *pack them well*—they will be of a kind very costly even if given to you. There are some trustworthy agents of reliable nursery establishments; but the safer way is to send or go and get trees direct from the nurseries themselves. There is then a party having a local habitation and name, responsible for the quality of the trees, and the genuineness of the varieties purchased. If purchasing of traveling agents, it should be only on condition (in writing) that the proprietors themselves guaranty the trees actually delivered, and that too in writing.

"Rats."

"Rat-Charming—Japanese Mode of Charming or Bewitching Rats, etc., etc., etc., etc."

The above is advertised extensively just now, the whole secret being promised for 50 cents by one man, and for \$1 by another man; and pretty soon somebody will offer it for 25 cents. If anybody invests any one of these sums in it, he will be a bigger fool than we are. We did invest 50 cents, but with our eyes open, and just to be able to positively pronounce it a HUMBUG! Here is the substance of one of the "secrets": Tie a string to a red herring; put on rubber shoes; trail the herring around the room or field nightly for a week or so; and the rats will, bye and bye, get familiar, and follow you into a bag, or any where you wish to take them! There now, hand us over the 50 cents!

Lime—Sundry Experiences.

We asked for experience with lime, expecting a dozen replies or so, as farmers can seldom be induced to write. The result is—a small cart-load of long letters. This is well, for every man that has written has been set to thinking and observing more carefully, and so the *writers* at least have been benefited, if we do not use a tithe of their letters. But what shall we do with these letters—they would *fill* three papers? We will take them up as they come, and extract a little of the pith—some here, and more hereafter:

Jacob Hall, Stark Co., Ohio, has used lime 15 years. Soil dry upland, yellow loam, limestone land, with clay in low places. Cost of lime, delivered, 6 cents per bushel. He applies it air-slaked, because more pleasant to handle, and he thinks it holds out longer, though not so effective on the first crop as if water slaked, except when applied to grass. Uses 60 to 75 bushels per acre, once in from nine to ten years, spreading it from a wagon, on the new plowed ground just before sowing wheat or planting corn, working it in with a cultivator harrow. Finds it most beneficial to grass, and next, to corn. Applied alone to exhausted land, it has little effect upon the first crop of wheat

following; but if clover and timothy seed be sown in Spring, the increased yield of first crop of grass pays for lime.—*Example*: Ten acres of a 12-acre field was limed ten years ago, and the whole field has been treated alike both before and since. At this time a clover crop shows exactly where the lime was applied; the young clover takes better, grows larger, and yields much heavier than on the 2 acres not limed. By turning in clover, lime improves land. Lime will make clover grow on our poorest soils, and plowing in the clover improves the soil, so that "lime without manure" does *not* "always make the farmer poor."

"Chester County," Pa., has used lime 25 years, on rolling land, made thoroughly dry by drainage when not naturally so; soil, light loam, inclined to gravel. Cost of lime 19 to 19½ cents per bushel. He applies about 50 bushels per acre once in 9 years; air slakes and spreads with a shovel from the cart. He hauls from the kiln in Spring and early Summer, putting it into heaps 2 to 2½ feet high, where it lies until Autumn, when it is spread on wheat stubble. He applies it to the ground before sowing oats, and on the stubble of corn land after cutting; thinks it keeps corn back in the Fall, if put on the sod in Spring before planting.

Samuel S. Thompson, Salem Co., N. J., has used lime 20 years on light loam, wet and dry; costs 7 cents per bushel 3 miles distant; applies 30 to 40 bushels per acre, at each planting of corn, or once in 4 or 5 years; spreads it on the soil in Autumn, and plows it under in Spring, planting on the inverted sod. He follows corn with oats; then fallows and sows to wheat, seeding well with grass—mostly clover. He esteems clover and lime by far the cheapest mode of improving his land. A field of 14 acres, that 13 years ago would not yield 100 bushels of wheat, has, by the use of clover and lime only, been so improved that last year it yielded 420 bushels, or 30 bushels per acre. He has tried shell lime with good effect; thinks it acts quicker than stone lime, but that it is not so permanent. He has known several cases where corn has been injured by too free use of lime without enough manure or other vegetable matter.

S. Utter, Milford Co., Pa., has used lime 11 years; finds it cheap at 12 cts. a bushel, unslaked; applies much more on heavy than on light soils; it always brings good clover, and restores wheat land to productiveness. He spreads it fine slaked and dry, from a wagon, on the plowed ground, harrows it over, sows on seed, and harrows again thoroughly. He finds lime to pay two-fold at least.

Thomas Burt, sen., Hillsdale Co., Mich., takes lime fresh from the kiln, deposits it in heaps of a peck each, around the field, and covers it with 4 or 5 inches of earth. This is done on wheat land two weeks before sowing. As soon as the lime is slaked, each heap is thoroughly mixed with 5 or 6 wheelbarrow loads of earth, finished up nicely in conical heaps, and left until ready to sow the grain, when it is spread and plowed under. A heavy rain, however, should it come, makes a mortar of the lime, and materially injures the process.

A. Mordorf, Cumberland Co., Pa., bought 16½ acres of worn out land 15 years ago, "all covered with chamomile and wild flax." Ten years ago he began using lime; has used 2200 bushels, and all the manure he could make, sowing plenty of timothy and clover to plow in. The wild flax has disappeared, and the land now yields excellent crops.

(To be continued.)

Draining—Why—Where—How.

(Continued from page 70.)

WHERE—HOW.

A few more illustrations are needed to show the reader that his soil may need draining, even though upon a hill side where it would generally be thought that the water must certainly "run off" at all times. The wettest soil we have ever worked, and the one that showed the best results from draining, was one that every body thought a dry one, because lying upon an inclined plain where no water could stand upon the surface. Fig. 5 will illustrate one of the many varieties of soils. This engraving is an accurate sketch, of the surface soil at least, and probably of the interior formation, of an elevation about 150 feet high, and between three or four miles across the base. The height is shown out of proportion in order to bring it within the column. The slope is very gradual, and the several farms lying upon either side appear nearly level, the average descent being only about one foot in fifty. The illustration holds good, however, whether the hill be a large one with gently inclined sides, or a small one with steep sides.

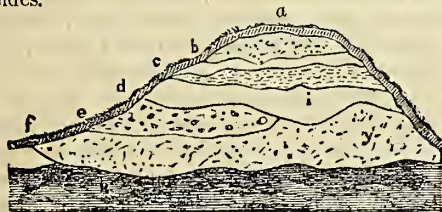


Fig. 5.

The lower dark portion of the engraving is the underlying rock. Above this is an open porous gravel, *y*. Upon this, at the left, is a still more porous soil, coming out to the surface between *d* and *e*. The next bed above, (*z*), is a stiff clay, which permits water to filter through it very slowly. Above *i* is another gravelly porous soil, upon which lies another clay bed. The upper layer, about 50 feet deep in this case, is a loam interspersed with gravel. Just at the top is a small basin-like bed of clay (not shown), which holds a pond of water on the very summit at *a*. A farm of about 100 acres occupies the top of the broad elevation, which is usually dry, except in the vicinity of the clay bed that holds the pond of water at *a*.

Now let us examine the effect of this particular structure of the soil. The rains falling upon the top of the hill, outside of the pond *a*, sink down until the water meets the thin layer of clay, through which it can not pass readily. It therefore flows out to the surface at *b*, and at all times the surface soil between *b* and *c* is more or less saturated with water, making it cold and even sour. The wettest land upon the whole slope is between *b* and *c*, though the superficial observer would say it was not possible that the land should need draining so near the summit.

From *c* to *d*, the impervious clay subsoil prevents the absorption of rains, and they run off down to *d*, where they sink into the porous subsoil, and through it into *y*. This land (from *c* to *d*) is wet during Winter and Spring, but is comparatively dry in Summer, except after rains.

From *d* to *e*, and from *e* to *f*, the surface is comparatively dry during most of the year. Below, or at the left of *f*, a clay bed comes to the surface and there we find a swamp. On the right slope a similar succession of dry and wet soils is found. Let it be remembered that these several plots—from *b* to *c*, from *c* to *d*, from *d* to *e*, etc.—may each extend half a mile or more, or

they may be only a few rods or feet each, so that the wet and dry plots may occupy whole farms, or several of them may be found on the same farm, or in the same field. Sometimes a dozen or twenty alternate layers of compact clay beds, and porous soils, may be found in the same elevation of land, producing corresponding alternations of wet and dry soils upon the slopes.



Fig. 6.

Fig. 6 represents a valley where a like succession of wet and dry soils may be found. This valley may be a small one, occupied by a single farm, or it may be a broad one, so large that a dozen or twenty farms may be scattered over its sides, and the inclination or slope be so gradual as to be barely perceptible to the eye. Such an arrangement of soils is not unfrequent on the broad gently rolling prairies of the West.

It will be seen that from *r* to *s*, for example, the surface receives not only the falling rains, but also the water flowing out from the porous soil between *o* and *r*. The same is the case between *v* and *u*, between *x* and *w*, etc. But in the very bottom of the valley, from *u* to *s*, where we would look for the wettest soil, it is, on the contrary, the driest, because a porous subsoil carries off all the surplus water. These illustrations serve to convey to the reader some idea of the impossibility of judging of the wetness or dryness of a soil, merely from the situation and inclination of the surface. The different soils of every part of the country are made up of a great variety of layers, and a study of their characteristics, upon and below the surface, is necessary to determine the real condition of any farm as respects its wet and dry condition, and the greater or less need of draining.

HOW TO DRAIN.

The importance of freeing land from water is, we trust, now appreciated by all those who have read what has been stated in the previous two papers. The brief illustrations given above, and at the close of our last paper, page 70, indicate the difficulty of laying down rules for draining which will be applicable to all circumstances of soil and location, and also show the necessity of a careful study of each and every field by the cultivator himself. We can only offer a variety of suggestions, of a general character, which may afford useful hints, and we will, from time to time, throw out such hints as have been gathered from a somewhat extended observation and study of the subject. We also invite the suggestions of practical men on the topic.

The simplest method of freeing the surface soil from water, is that of plowing it into narrow "ridge lands" with deep open dead furrows. This is far better than no drainage, though objectionable, because it is but superficial at best; because it wastes a considerable portion of the land; and because it breaks up the surface so much as to partially unfit it for driving over, and for working with machinery—the mower, reaper, horse-hoe, etc. But until better modes can be adopted, we strongly advise every cultivator to practice ridging land more thoroughly than has hitherto been done. It can not have escaped the notice of the most careless observer,

that, when a wet cold soil is plowed into very high narrow lands, say of four or five paces wide, the best growth of crop is found upon the center of the ridges. By careful examination, we have found that on a clay, or stiff loam, with a compact subsoil, plowed into high ridge lands 10 to 12 feet wide, the yield of good plump wheat gathered from the center one-third of the lands, is larger than that from the remaining two-thirds of surface including dead furrows.

Two or three hints may be offered on ridging land. The heavier and wetter the land, the narrower and higher should the ridges be made. It is better to not try to secure much growth on a foot or two of the soil occupied by the dead furrow. When the crop is sown and covered, let the last operation be to run a double mold-board plow as deeply as possible through the dead furrow. If a double mold-board plow be not at hand, run a single mold-board twice through, to throw a bank of earth on each side.

At first thought, it would seem that turning a furrow or ridge upon each side, would defeat the object of the drain, or dead furrow. But there is this advantage in the plan, that the ridge of soil, or embankment, on each side prevents the water running over the surface into the furrow, and it soaks through the loosened soil, which filters out and retains the manure and fertilizing elements that would be lost if the water ran freely into the drain. These embankments also prevent the filling up, by washing in of the soil which would take place if the falling rains flowed directly off from the surface into the dead furrows. In any soil loosened by the plow, the water collected upon the surface, and even held there by the embankment on either side of the dead furrow, will soon soak down and find its way in at the sides.

Make the dead furrows as deep as may be, and be sure that they are left open and clean throughout their whole length, and that a good outlet is secured. Cross-furrows run through hollows in a field are often important, when the surface is not a regular inclined plane. A final thorough clearing of the intersections of furrows, and of their outlets, with a hoe or spade, is important. All these items take time, but a field well fitted with good open dead furrow drainage, is likely to be far more productive than one not so treated, and after going to the expense of preparation and seed, it is economical to spend a little more time in finishing the work.

If the dead furrows be properly prepared as above described, they will seldom be closed up in Winter; but they should always be examined in March or April to see that they are clogged at no point. One of the most successful farmers in our acquaintance, who has a heavy clay soil, always plows his wheat land into narrow ridges ten feet wide, and in Spring he runs a small one horse plow through the dead furrows to clean them out and deepen them, following with a hoe to remove any lumps that fall back.

We shall continue the subject with directions for other more thorough modes of draining.

A BAD CUSTOM.—In no pursuit or profession, is there required so great an exercise of judgment, experience, observation, and of science also, as in the proper treatment of the great variety of soils with which the cultivator has to deal. The rule is: make professional men of your smart boys—leave the dolts to till the soil. It should be: devote the best talent to the cultivation of the soil where the highest degree of judgment and skill is required; and let the lower grades of intellect be sent into the routine of professional life.—*Amer. Agriculturist.*

Smoking out Lice.

Good feed and warm shelter are the best general preventives of lice on cattle, yet they are occasionally introduced among well regulated herds by the purchase of additional animals; then they must be extirpated. Oil or grease of any kind, liberally applied to the affected parts is usually recommended. Some use a decoction of tobacco. The application of these is somewhat troublesome and disagreeable, and to obviate this, a subscriber, J. A. Whipple, of Providence Co., R. I., has contrived and communicated to the *American Agriculturist* a simple apparatus for smoking them out with tobacco, which he states he has proved effectual. A small conical copper box with brazed joints, (tin solder would melt) is screwed to the nozzle of a common pair of bellows. The movable cover, and also a false bottom in the box, are pierced with small holes, enough to about equal the orifice of the nozzle. The box is nearly filled with tobacco, the lower end lighted, and the bellows attached. By working it gently, and holding the apparatus close to the animal, he can be perfectly fumigated in a few minutes, killing every louse. The tobacco can be conveniently lighted by heating a small bit of iron red hot, and placing it in the bottom of the box before introducing the tobacco. The fumigation will need to be repeated a few times, at intervals of four or five days, as the nits are not destroyed by the smoke. A box containing a half pint is sufficient to go over a dozen head of cattle; and it can be done in about as many minutes. Poultry can be treated in the same way, and the lice also routed from their roosts and nesting places. [This appears plausible, at first, but we have doubts as to the success of driving out insects by simply driving tobacco smoke among the hair.—Ed.]

A Swine Pasture.

The practice of good farmers differs in regard to the pasturage of swine according to their varying circumstances. In the East, where the country is most densely populated, and pasturage is scarce, the prevailing custom is to keep pigs in the pen for the greater part of the year. The best farmers consider the pig too valuable a laborer in manure making, to allow him to waste his energies in roaming the fields. Breeding swine, both males and sows are allowed a little license in green pastures, but the rest of the herd, from the age of two months until they are slaughtered, are kept in close pens, and fattened as rapidly as possible. Under this system, pigs from ten months to a year old are made to weigh about three hundred pounds each, and to manufacture about ten dollars' worth of manure. This system is undoubtedly the best, where all the pasture is needed for cows and sheep, and where large quantities of manure are needed for the hoed crops.

In the West and South, where land is cheaper, good farmers rely mainly upon pasturage to keep their swine growing through the summer. In the newer settlements they run almost wild in the woods, and derive a large part of their living from mast. Manure is little prized, and the only value of the pig is his flesh, when slaughtered. Without committing ourselves at all to this method of making pork, it is conceded, that under certain circumstances it is desirable to have swine get their own living.

What sort of a pasture shall be prepared for

them? A correspondent wants to know if rye is the best article for them. Rye is only reliable for a few months, and if sown at all, should be sown in connection with clover and grass seed, to make a permanent pasture. M. W. Phillips, a large planter of Mississippi, has discarded rye, and now sows a mixture of clover, oats, and barley. There is unquestionably a good foundation for the proverb: "living like pigs in clover," and whatever seeds are sown, clover should have a prominent place among them. It furnishes a larger amount of leaves, than any of the grasses, and is greedily eaten by swine. They are not very particular as to the kind of green food they have, and a farmer may consult his own convenience as to the kind of grain, or grass he stocks his pasture with. Variety is better than any one kind.

After the pasture is stocked, it would be better not to feed with swine the first year, unless their noses are jeweled to keep them from rooting. It should not be fed closely. A frequent change from one field to another is desirable, both for the thrift of the plants, and of the animals. Pigs to be fattened, should be taken out of the pasture as early as the first of September, and kept in close pens. They can then be kept very economically upon corn cut by the roots, for two months, and finished off in November with old corn, or meal.

Where a regular rotation is pursued, the last year of a field of grass may be devoted to the swine pasture. As the field is to be taken up in the Fall for wheat, rye, or some other grain, it will be of little consequence if the turf be destroyed by the rooting of the swine.

The Opening Work of the Season—Good Plans and Resolutions.

Every farmer and gardener should begin the season's work with new plans and resolutions. He should, first of all, feel a hearty interest in his calling. Some engage in their business as if it were a mere drudgery, a thing they hated to do, but did so from sheer necessity. With what a heavy step and lack-lustre eye they go to their daily employment! Life has little poetry for them, little present enjoyment, and little hope for the future. Nobody envies such men. Away with such feelings, friends, and begin this happy April work with new zest and alacrity. Resolve on getting the most pleasure and usefulness this Summer can possibly yield.

Look out upon those handsome and fertile acres which Providence has committed to your care. They are under your entire control. If you neglect them, they will produce but a scanty harvest. By your industry and skill they will soon spring with young crops, on which the eye can rest with delight all Summer, and in the Autumn they will fill your barns with plenty. And you, horticulturist, the lawn and garden wait your call and the touch of your hand. At your coming they will wake to beauty and fertility; they will reward you all the long season with shade and fragrance, and fruit and flowers. What more delightful pursuit!

Do you think so? Then follow up such thoughts with good plans and resolutions. Assuredly, every man's work should proceed according to a plan, or else his business will be only half done and poorly done. It should be definitely settled, early in the Spring, that this field should have this kind of treatment and crop, and that the other should be managed so and so. This and that farm building need cer-

tain repairs, and they shall have them. I must sell such and such of my stock, and buy such and such. Jane must go to Miss —'s High School, to afford her better advantages for completing her education. The lumber wagon must no longer serve as a family carriage, because I can afford a better, and self-respect and comfort require that I should have one. . . . Such and such other things, Providence favoring, shall be the result of this season's endeavors, says the farmer.

So the gardener: the small piece of ground committed to me shall not lie idle. In the fruit and vegetable department, I will, this year, attempt some things new, but will hold fast to the old that are known to be good. My neighbors shall not out-do me in the line of salads, cucumbers, melons, strawberries, raspberries and dwarf pears. My grapes shall have the best of care. The famous Delaware, about which the whole country is debating, has already yielded me a few delicious clusters; this year, if care can avail anything, it shall do more. The Concord, Diana, and Rebecca have wintered well; and I mean that they shall summer well. Among the newer sorts, I shall venture only upon the Crevelling and the Cuyahoga.

In the ornamental line, my lawn shall have the first care. Nothing rewards my labor so well as this. My shade trees need a little trimming to keep them in good shape; and my hedges must not be forgotten. In May and June I must enlarge my collection of evergreens. The flower-garden must, by no means, be neglected. The crocuses, now peeping up, will be followed by hyacinths and tulips and other flowers in long succession. And I must add a little to their number. A few novelties among the dahlias must be had, also the newer gladioli. Then, there are Japan lilies, scarlet geraniums, petunias, verbenas, pyrethrums, perpetual roses, and the like. My neighbor Smith, a zealous amateur, recommends the Tritoma Uvaria, the Farfugium grande, the double zinnias, and the Gazaria splendens, as among the finest novelties, and I must have them.

So soliloquizes our gardener, but we need not listen to him any longer. We shall be satisfied if he and the farmer become inspired with new zeal in their callings, on the opening of this Spring's campaign, and if their zeal is crystallized into well formed plans and resolutions.

For the *American Agriculturist*.

A Tool House Wanted.

"Where's that log chain?" asked Joe Tubbs of his boy Bill, as they were getting the team ready to draw a load of wood.

"I say, Bill, have you swallowed that chain? Never can find any thing when you want it. Why didn't you put it up in its place?"

Bill looked astonished, as if he had not heard the same thing about some misplaced tool, every week of his life, and said very meekly: "I didn't know it had any place in particular, thought I left it on the cart, where you generally leave it."

The fact is, Tubbs was a sloven, and never could lay his hand on any thing he wanted—and he added to this sin, a cross-grained, fretful temper, that worried every body with whom he came in contact. The plows were as often left in the furrow as elsewhere, and lay out over Winter; the cart and wagon stood under the old apple tree, by the road side; the chains, yoke, and nose baskets, sometimes brought up in the stable, sometimes under the shed, again in the corn crib, but oftener were left with the cart;

the shovels, spades, crowbars, seythes, corn-knives, sickles, rakes, forks, axes, and other tools, were scattered about the premises, generally left where they were last used.

So there was a hunt of an hour, that morning, in all possible places, for the log chain, but it didn't turn up. The oxen stood chewing their cuds, philosophically waiting, as if they were used to such delays. It was entertaining to an outsider to see Tubbs shinning it, from the barn to the shed, from the shed to the corn crib, from the crib to the cart, and from the cart to the wood pile, scolding as he went, and blaming everybody but himself for the loss of his chain.

"Look here, Bill, run over to neighbor Jewett's and ask him to lend us a chain; must have something to bind the load."

So Bill scud to the neighbor's, a half mile off, to borrow. When he had made known his errand, Mr. Jewett replied: "It is *rather* doubtful whether you can find such an article in these parts," with a drawl upon the *rather*, and a wicked kink in his eye, that squinted toward the slovenly habits of Joe Tubbs.

However, he went out to the barn, where he shoved a door that ran back upon little wheels, and introduced Bill to a good sized room, where there was nothing else but tools. There were the crow bars, three of them of different sizes in one corner, the plows all cleaned, the hoes and shovels hung up on the sides, the rakes overhead, the harness on wooden pegs, and the chains hanging on cleats, and every thing in its place, so that the owner could lay his hand on it in the night, if it were necessary.

The younger Tubbs got the chain, and a new idea of order at the same time. It broke in upon his mind with great clearness, that it was not necessary to spend hours every week in looking up lost tools, or in borrowing from a neighbor. Tubbs, senior, may never build a tool house, and save his temper. But the boy will learn wisdom in his present school of affliction, and when he takes the farm, will have a place for everything, and everything in its place. *

Inclined Board Fences—A Valuable Method, Where Practicable.

To the Editor of the American Agriculturist.

The kind of board fence described below, is of my invention, and I have found it to answer well: For the post, take two pieces of hemlock scantling, 3x4 inches, and about 5 feet 4 inches long; bevel the ends, and pin them together at an angle at the top, so that the lower ends of the post will be four feet apart. Nail a brace across about a foot from the bottom. The post when set upright, forms a triangle, the two equal sides of which have the same inclination, and the surface of the ground on which it stands forming the base. The boards (I use four,) are nailed to one of the inclined sides. To prevent blowing over, a stake is driven deep into the ground and nailed to the foot of the post which stands inside the field. I made the first piece seven years ago, and it is sound and good now—will stop cattle or sheep as well as a perpendicular fence; is cheap; costs here where hemlock lumber is worth only five dollars per M., 37½ cents per rod finished. It is also durable; the rotting of the post at the surface of the ground only causes it to settle a little; it takes about the same room as a stone wall in plowed land, and much less in meadow or pasture, and cannot be thrown out of its place by the frost. This last item renders it

useless in this part of the country to build board fences with the posts set in the ground. If built straight, and neatly finished, it is as pretty a common fence, as we can see.

Wayne Co., Pa.

ALFRED PASCOE.

REMARKS.—This plan, though not new, is often useful and very convenient, where the winds are not too powerful. If made in short lengths, the fence can be moved about readily. The whole can be moved aside, and the ground be plowed, and even sown or planted, and thus be kept free from weeds and grass. If the ground under the fence be used, it would be well to put the boards on the north side of fences running east and west, to admit the sun on the south side. As the posts incline away from the field on either side, it will be easy to work close up to the fence. It would hardly answer for a sheep fence, as these animals would be quite likely to run up on the inclined board side.—Ed.

Sorghum—Hints on its Culture.

To the Editor of the American Agriculturist:

Permit me to make a few suggestions to those who purpose cultivating the sorgho plant the coming season. There appears to be a great many varieties of seed in the country, and a great many of them worthless. I do not know them by their names. The only way to secure a good variety is to procure seed of some one who has had a good yield of sugar and molasses from his cane. I believe that the people of America have been humbugged most awfully by the introduction of the wrong varieties, and that most, if not all the good seed came originally through your office.

The seed must be matured to grow well. Prepare it for planting by soaking it, say in a weak solution of equal parts of chloride of lime and copperas, if practicable. Prepare the ground well, and mark out with a chain instead of a plow. The germ of the seed should be just visible. A little flour should be mixed with it while wet, to prevent sticking together and enable you to see it readily in covering. For planting with a machine, the seed must be dry. Sprouted seed should be covered about ¾ of an inch—less would be sufficient if the weather is moist and warm. One of the varieties of the Imphee I have found more readily convertible into sugar than the sorgho. This may be planted the middle of May, but the sorgho should be planted just as soon as the ground is dry enough, certainly not later than the first of May.

Do not let the weeds get the start. Keep the ground well tilled and clean until in July, or until the cane joints. The cane should be got further along before mid-summer than is usual. For this purpose, some of my friends plant in hot-beds and transplant, and with good success—the labor of transplanting not being so great as the first hoeing out of the sorghum from among the weeds.

A good time to cut cane is when the top of the seed panicle has ripened, but it should by all means be cut before frost. Let it be shocked upon something that will raise it from the ground, and not in too large shocks; let it have air. Grind and evaporate as fast as cut, when possible, and this may be done if frost holds off.

Be sure to have an evaporator of sufficient capacity. Great mistakes have been made by a whole neighborhood depending upon one machine—while the cane has waited for its turn, it has molded or soured, and the syrup made from

it, brought discredit upon the whole sorgho experiment. And while upon evaporators, let me say that herein lies the great secret of success. I know of but one adapted to the business, out of nearly a dozen: I have tried, and that is Cook's "Baby Roeker," as it is jocosely called. I never could make sugar in kettles, but with Cook's machine, have made as nice sugar as I ever saw.

To secure crystallization, a temperature of 90° is required, and that must be regular. In this township we have made 4000 gallons, and our County (Richland) saved \$35,000 during last season alone, by the introduction of sorghum.

Richland Co., O.

H. MANSFIELD.

Cross Plowing Greensward.

This error is sometimes fallen into by those who have had little experience in farming. They want to make the best preparation of the land for crops, and do too much. If the object be to get a deep tilth of soil, the better way is to turn the turf under at once, ten or twelve inches deep, and mellow the surface with a harrow or cultivator. Where the sod is turned over, it decays much more rapidly to lie undisturbed, than to have it broken by cross-plowing. The edges of the sod do not come to the light and air, so as to grow, and the whole mass of vegetable fiber is rapidly converted into plant food, and taken up by the crop.

Cross-plowing is particularly objectionable in wet, or clayey soils. If the furrow slice is turned over eight or ten inches thick, and allowed to lap a few inches upon its neighbor, it forms a temporary drain in the bottom of each furrow. If the furrows run up and down the slope of the field, they will carry off the water after heavy showers very readily, in the fore-part of the season, when the ground is most likely to be injured by a surplus of water. In breaking up a prairie sod, more shallow plowing is desirable. The sod rots quicker, and there is fertility enough near the surface.

Canada Thistles.

A recent number of the Mark Lane Express (Eng.), contains some remarks on the Canada thistle (*Cirsium arvense*) by Prof. Burkman, in substance as follows:

This plant, as all our farmers know, is very difficult to eradicate, on account of the very succulent subterranean stem, called by botanists *rhizoma*. From the well known fact of the increase of this plant by means of the underground growth, the cultivator often concludes that it is only propagated in this way, and Curtis the author of *Flora Londinensis*, entertained the same opinion. However, as we had reason to suspect some fallacy in this, we collected some seeds and planted ten in a pot, every one of which germinated. We are therefore of the opinion that the Canada thistle is annually produced from seeds to an enormous extent; but so small is its first year's growth above the ground as hardly to attract notice; while the under-ground growth is preparing small buds which make a complete colony the second year. It happens fortunately that much of the seed of this plant is eaten by a weevil, and that which arrives at perfection is a favorite of small birds, and particularly of the finches.

To destroy thistles of this kind in a meadow, we should take care never to let the leaves, which are the lungs of the plant, have time for their growth; as soon as we see them we should

trample them under foot or hammer the young buds to bits, with something like the old "clod beetle;" the object being to bruise them, which is better than cutting them with a sharp instrument; as every gardener knows that clean wounds heal more readily than confused ones. If this be continued with the thistles, the rhizoma or subterranean stem will gradually die.

For the American Agriculturist.

Mixing Soils.

I had a piece of ground which had become reduced by a succession of crops, so that it produced only five hundred pounds of hay to the acre. I wished to dig a cellar under my barn, and concluded to try an experiment with the earth which was taken out. I measured off one acre of the field above mentioned, and drew the earth from the cellar upon it, covering the piece to the depth of two or three inches when it was evenly spread. This was turned under the same Autumn, to the depth of six inches. The next Spring it was harrowed thoroughly, and one half planted to potatoes, and the other half sown to oats. The result was one hundred and twenty five bushels of potatoes, of as fine a quality as I ever raised, and thirty bushels of oats. I again plowed it in the Autumn, going two inches deeper than the previous plowing. In the Spring I thoroughly mixed and pulverized the soil, and sowed to wheat, and seeded to clover and timothy grass. I had a stout growth of straw, but owing to the weevils, the yield was but 15 bushels of wheat. I have since cut two tons of hay to the acre for two years. I think the four crops have well paid me for the trouble of trying the experiment, and the result has been, thus far, quite as good as though I had applied thirty loads of manure to the land. The soil was clayey; the earth applied was a yellow loam. I think the mixing of soils, as clay upon sand, or sand upon clay, will prove of great benefit where the materials for making an abundance of manure are scarce.

A. A. PIERCE.

Caledonia Co., Vt.

A Cheap Corn Coverer.

To the Editor of the American Agriculturist.

Last season I used an implement for covering corn, which worked so well and saved so much labor, that I send a description, which may benefit others. [Description not quite clear.—Ed.]

Make a very light frame, similar to a shovel-prow; set the stock and beam at right angles. Instead of a shovel, have a piece of iron about 6 inches square fastened to the stock. When using, hitch it to a horse, and as he walks in the furrow, after the corn has been dropped, press the coverer into the mellow earth, and it will gather sufficient to cover the grains nicely. Lift it over the grains of corn in each hill. With this implement a man and boy can plant from six to eight acres per day. It may be used on quite rough ground, and will do better work than can be done with a hoe, in the most careful hands.

J. A. POLLOCK.

Huntington Co., Pa.

Early Germination of Seed Corn.

The Republican of Princeton, Ill., gives an experiment of Dr. Chamberlin, which goes to show that, by the use of chloride of lime and copperas, much time may be saved in the germination of corn. In his office, Dr. C. had four

boxes, in one of which the corn was planted without soaking, and the seed had not germinated; in the second, the seed was soaked in warm water, and had just commenced to germinate; in the third, the seed was soaked in a solution of lime, and the green blades were just peeping from the ground; in the fourth, the seed was soaked in a solution of chloride of lime and copperas, equal parts, and the blades were nearly three inches above the ground. All the seeds were taken from the same ear, were planted at the same time, in the same quality of soil, and had an equal share of light and heat. The copperas will keep the birds and worms from eating the seed. One pound each of chloride of lime and copperas will soak seed enough for 20 acres.

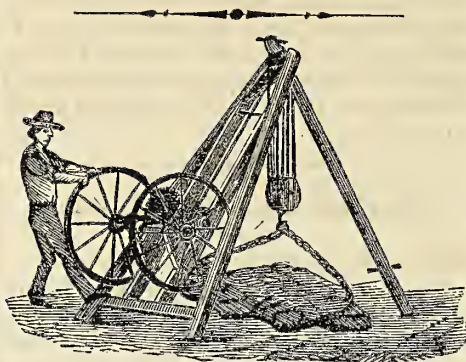


Fig. 1.

Rock and Stump Extractor.

Whatever may be thought of *underground farming*, as draining has been somewhat facetiously styled, there is but one opinion as to the desirableness of improving the surface. The stumps and rocks which are in the way of the plow, of the mower, and of the growing plants themselves, are unanimously voted a nuisance. On many good farms, at least ten per cent of the surface is thus occupied and useless for cultivation. If this amount be thought too high, let a man measure off ten feet square on a moderately stony field, and count the stones measuring on an average six inches square: forty such stones would cover one tenth of the surface, and their removal from such a plot would add at the rate of one acre to every ten. Stones of that size are easily got along with; the boys can draw them off; but for the heavy boulders, some mechanical contrivance is necessary, of which quite a number have been patented within a few years. One of these is here shown. It appears to be well adapted for the purpose, though not having seen it in actual operation, we are not able to decide

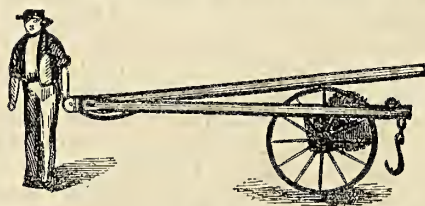


Fig. 2.

upon it fully. It is a combination of the wheel and axle with the pulley, in such a manner that by its use, it is said, two men can take out a rock weighing four to five tons, without digging. When in use, (see Fig. 1), the triangular frame is placed with its center over one side of the rock to be lifted, so that when raised, the rock is swung clear of its bed, and can be readily loaded upon the stone boat. It can also be used for raising heavy stones to their place when building a wall. Fig. 2 is an imperfect representation of the manner of moving it from one rock

to another. The wheels by which it is worked in lifting, as shown in Fig. 1, serve as running gear in its transportation. It is styled Lyon's patent. The price is about \$70. We are informed that a horse power attachment can be affixed for about \$10 extra.

How to Raise Sugar Beets.

A correspondent asks light upon this subject. First we want a well prepared soil, deep, friable, and rich, if we mean to get a crop economically. This root is hardy, and will indeed grow upon almost any soil, but it pays abundantly for generous treatment. For field culture, we prefer an old field planted one or two years, to green sward. A corn stubble makes a very good beet field. We first spread the manure upon the surface and plow it under. Any stable manure will answer, but the finer it is the better. A compost prepared from the sty or the privy is just the thing for this crop. Marine manures—composts into which sea weed and marsh mud enter—are also excellent. In plowing, some regard must be had to the present depth of the surface soil. It will be well to bring up an inch or two of subsoil, even if we go down a foot after it. The ground should be plowed in narrow furrows, six or eight inches wide, so as to make the soil as loose as possible. It is of great advantage, where the soil is not more than six or eight inches deep, to follow with a subsoil plow.

As to the quantity of manure, it must depend somewhat upon the past treatment and fertility of the land. A field that will yield forty bushels of corn to the acre, should have at least fifteen cords to the acre. In planting, we prefer to use concentrated manures with the seed.

If lumps are left after plowing, the surface should be harrowed or cultivated until it is in fine tilth. In planting, we put the drills at two feet apart, and plant with a drilling machine that drops the seed at intervals of a foot. As the seed husks are very hard, they should be soaked in warm water for two or three days before they are planted. The drills in field culture should be two to two and a half feet apart. We have sometimes put them at eighteen inches, but it is quite too near for convenient tillage, and the roots do not grow so large as when they have more room. They are easily cultivated with horse power at two feet. In cultivating, the plants should be thinned out to one in a place at the second hoeing. As the plant is of marine origin, we have found salt an excellent element in the composts used, or for top dressing after the seed is sown. The tillage should be frequent and thorough, so as to keep all weeds under until the leaves shade the ground. In the latter part of August and September, a few of the bottom leaves may be removed from each plant for feeding cattle. The crop should be gathered before the hard frosts, as the crowns are liable to be injured. The yield is from five to fifteen hundred bushels to the acre, according to the skill of the cultivator, and the favorableness of the season. The sugar beet is regarded by many as the most profitable root that can be raised for milch cows.

Self-Fastening Door-Catch.

To the Editor of the American Agriculturist.

I have just read Mr. Baker's plan, for a door-catch, in the Feb. No., and will give you mine, which is cheaper, and less liable to get out of order. My stable door fastens with an out-side

latch, which drops into a catch, in the jamb, or door post. When the door is opened and swung back to the side of the barn, the latch drops into a similar catch fastened to the weather-boards, which holds it firmly. It will cost but a few cents to fasten doors in this way. I find this simple contrivance of very great service, as it enables stock to go in and out in safety.

Athens Co., O.

FARMER.

Administering Medicine to Horses.

To the Editor of the American Agriculturist:

I consider the usual method of giving medicine to horses by drenching, as it is called, highly objectionable. In this process, the horse's head is raised and held up, a bottle introduced into his mouth, his tongue pulled out and the liquid poured down. In his struggle, some of the medicine is quite likely to be drawn into his wind pipe and lungs, and inflammation and fatal results sometimes follow. A better way is to mix the medicine with meal, or rye bran; make it into balls; pull out the horse's tongue, and place a ball as far back in his mouth as possible; then release his tongue, and he will almost certainly swallow the ball. Or the dose may be mixed with meal and honey, or other substance that will form a kind of jelly, placed upon a small wooden blade made of a shingle, and thrust into the back part of his mouth, when he will very easily swallow it. GEORGE B. PERRY.

Perry Co., Pa.

Enforce the Bird Laws.

The Legislatures of several States have enacted stringent game laws for the protection of animals, birds, and fish, and it becomes farmers particularly to see that they are strictly enforced as far as pertains to birds. Scientific men of high authority very generally agree that the alarming increase of destructive insects, which cause the loss of so much grain and fruit, is mainly in consequence of the wholesale slaughter of their natural enemies, the birds, that had previously kept them in due bounds. Let every cultivator post conspicuous notices upon his farm, forbidding all persons to enter the fields with a gun, under penalty for trespass. This may be done, and the offenders punished, where no game laws exist. Let every bird murderer be dealt with rigorously. In this State, the law imposes a penalty of 50 cents for each bird of the following species killed, or trapped, between the 1st of February and the 1st of October, viz.: the robin, bobolink, nightingale, night hawk, blue bird, Baltimore oriole, finch (yellow bird), thrush, lark, sparrow, wren, martin, swallow, wood-pecker, or other harmless bird.

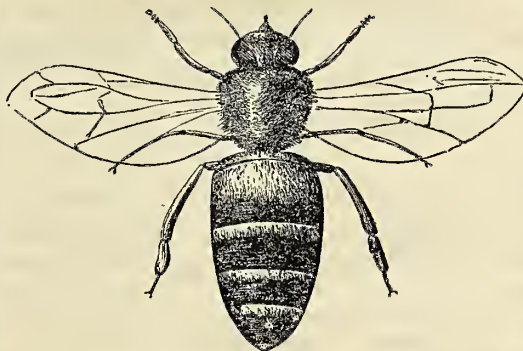
A Word for Straw Hives.

Fifteen years of successful experience with straw hives, certainly entitle their advocates to a hearing, which is therefore cheerfully accorded to Mr. I. L. Scribner, of Washington Co., Vt.; who writes that during the above period, his bees kept in this manner, have sustained no injury from the moth, nor has he lost a swarm in any way by which it could be attributed to a fault in the hive.

His hive, on which there is no patent, is made thus. Square sticks, say an inch in diameter, are planed smooth and nailed together, forming a frame 12 by 13 inches, and 13 inches high, the lower girts being 14 inches above the bottom of

the uprights. A flat board roof, nailed or screwed on, projects 2 inches over each side. Holes are bored in the roof to admit bees to boxes placed above for the reception of honey. The frame is covered with clean rye straw, properly sewed together. A hoop, made of strips of board, 1 inch thick, and 2 inches wide, surrounds the bottom of the frame. In this hoop is cut a notch, 24 inches long, and 3 inch high, for the passage of the bees.

The advantages claimed for this hive are, *dryness and even temperature*. Straw absorbs the moisture emitted from the breath of the bees, and it passes off without requiring large apertures for ventilation which are needed where wood is used. Straw being a poorer conductor of heat than wood, the hive remains cooler in Summer and warmer in Winter. In damp, chilly weather, which is often experienced in the breeding season, the bees will, it is said, breed faster than in wooden hives, and also gather more honey. The latter statement is accounted for on the supposition that they come out stronger in Spring, and that the young brood matures faster, hence there is a larger working force. Such are the views of Mr. Scribner, and he shows his faith in them by his works, discarding every other form of hive, and using only straw.



For the American Agriculturist.

Sundry Notes on Bees—The Italian Bee.

Bee-keeping, intelligently conducted, is a pleasurable, instructive, and profitable pursuit, and the practical study of the science requires less outlay than the investigation of any other subject of equal interest. Considering its claims, comparatively few are interested in it, and without doubt very many are deterred from entering upon it by fear of being stung. This apprehension is so general, that there are bee-books, even of recent date, which show their authors have no small dread of the insect they would familiarize us with. But with our present knowledge, the risk of being stung is reduced to almost nothing. Bees can be artificially swarmed and deprived of their stores, with the same safety and certainty of success attending the raising of chickens. A dealer has lately endeavored to take advantage of the dread of this insect, by stating in his advertisement that the Italian bee will not sting—this is false, although it is the case that they are apparently of more peaceable disposition than the common variety. This, however, appears to be due to their greater eagerness to accumulate stores; for as noticed below, when bees are busy gathering honey they seldom sting. On chilly days, when they can not work, they are as vindictive as the others. But we would advise those entering upon bee-keeping merely as a study, to begin with the common bee, and thus avoid unnecessary outlay. Both require the same treatment.

As the Italian bee is attracting much attention,

a few remarks upon it will not be out of place. The engraving given herewith, is an accurate representation of an Italian worker, sketched from a living bee by the writer. It is enlarged so as to better show its features. A portion of the first and second rings of the abdomen is orange color. The rings of the abdomen are thickly fringed with hair of a light yellow color. The abdomen is longer, which makes them appear more slender than the common bee. Practical men will be more interested in some other features attributed to them by German Apianians, and confirmed (so far as one season's experience can justify a conclusion,) by several noted apianians at different points in the United States, viz: a greater disposition to labor, not being deterred from their excursions by mist, moderate showers, cold and high winds, which would suffice to nearly or quite suspend the labors of the common bee; individual strength greater; queens larger and more prolific; more inclined to rob, and less apt to sting.

Bees are more easily excited to anger before and after hours of labor; in cold or inclement weather, which prevents them going out to seek food; when the honey harvest is poor; when rich in stores and hanging idly about the hive. The safest time to handle bees (danger of inducing robbing excepted,) is in the middle of the day, when gathering honey freely, and many of the foraging bees are away. The foragers in the hive are laden and intent upon depositing their stores, and are not inclined to sting or to fly from the combs, if gently handled. Bees under ten days old have no disposition to fly—Proof: remove a range of comb, covered with bees, from a hive of common bees, in which an Italian queen has been introduced, while her brood are under ten days old—there may be a majority of young Italians on the comb, but not one will leave it. Watch the entrance for

hours, and you will see only black bees going in or out. In walking about the hives, be gentle in all movements, avoid quick motions, avoid any jar. In your first operations, wear a veil, or a wire hat. Protection for the hands is unnecessary at any time; if fearful, however, wear india-rubber gloves; woolen gloves excite, from their likeness to the hair of animals. By the use of smoke timely given, and repeated as needed, bees may be kept in a state of quiet for any length of time, but if aroused by gross mismanagement, it is difficult to subdue them. In one instance, under serious provocation, I knew this anger to last for several days. The two most convenient and effectual ways to render bees harmless during operations, are: 1st, by blowing into the hive smoke from rotten wood; 2d, for a more lasting and decided effect by which you may be sure of tranquilizing every bee, light a pipe partially filled with tobacco, place the bowl of the pipe in your mouth, and blow the smoke in the hive. If a movable comb hive be used, raise the cover just enough to admit the pipe stem; in a few seconds the bees are thoroughly alarmed, and begin filling themselves with honey; at this moment there is no danger in removing the cover altogether. Now direct a little smoke between each range of combs, and you may proceed to perform any operation. If you wish to find the queen, the less smoke used the better; when but partially stupefied and crawling slowly over the combs, the queen is more readily found. In this manner honey boxes may be removed. Use more or less smoke according to necessity. E. P.

Reports on Apples.

The reports below are a part of those received at the office of the *American Agriculturist*, in response to the request on page 49. We shall continue to publish further reports in the order received. These tables will furnish valuable indications as to what varieties of apples seem to be best adapted to different sections of the country. It will be seen that some kinds run nearly through the whole country.—We shall be glad to hear not only from individuals, but especially from Horticultural Societies, Farmers' Clubs, etc.

In the following list the several varieties are placed in the order of their excellence, according to the estimation of those sending the reports.

Summer.	Autumn.	Winter.
1. Providence Co., R. I.—Voted by Farmers' Club, Foster.		
Early Harvest.	Porter.	R. I. Greening.
Red Astrachan.	Fall Greening.	Baldwin.
Cole's Quince.	Gravenstein.	Roxbury Russet.
s. Early Yellow Bough.	Golden Pippin.	Hubbardston Non-such.
	s. Fenner Sweeting.	Cogswell Pearmain.
		s. Ladies Sweeting.
2. Chittenden Co., Vt.—Farmers' Club, Shelburn.		
Red Astrachan.	Famense.	R. I. Greening.
Early Harvest.	Porter.	Baldwin.
Sops of Wine.	Lowell.	Swaar.
s. Yellow Bough.	Champlain.	Golden Russet.
	s. Northern Sweet.	Esopus Spitzenburg.
		s. Ladies Sweeting.
3. Windsor Co., Vt.—Report from Geo. A. Weston.		
Summer Harvest.	Porter.	Baldwin.
Early Harvest.	Jewett's Red.	R. I. Greening.
Red Astrachan.	Maiden's Blush.	Yellow Bellflower.
s. Yellow Bough.	Gravenstein.	Northern Spy.
	s. Northern Sweet.	Roxbury Russet.
		s. Ladies Sweeting.
4. Windsor Co., Vt.—Report from H. Stearns.		
Primate.	Porter.	Dexter.
Red Astrachan.	Holland Pippin.	Baldwin.
Summer Harvest.	Wynan Pippin.	Jewett's Red.
s. Golden Sweet.	s. Northern Sweet.	s. Orange Russet.
5. New-Hampshire.—Report from Peter B. Mead.		
Summer Rose.	Fall Pippin.	Baldwin.
Early Harvest.	Gravenstein.	Northern Spy.
American Summer.	Porter.	Esopus Spitzenburg.
Pearmain.	Hayley.	Swaar.
s. Yellow Bough.	s. Autumn Bough.	King Tompkins Co.
		s. Ladies Sweeting.
6. Westchester Co., N. Y.—Report from Wm. S. Carpenter.		
Early Joe.	Gravenstein.	R. I. Greening.
Early Harvest.	Hayley.	King Tompkins Co.
Red Astrachan.	Fall Pippin.	Monmouth Pippin.
s. Yellow Bough.	Porter.	Huh, Nonsuch.
	s. Jersey Sweeting.	English Russet.
		s. Talman Sweeting.
7. Westchester Co., N. Y.—Report from V. M. Hodgson.		
Red Astrachan.	Fall Pippin.	R. I. Greening.
Early Harvest.	Jersey Sweeting.	Newtown Pippin.
s. Yellow Bough.	Bellflower.	Vanderwerf.
		Baldwin.
		Roxbury Russet.
8. Niagara Co., N. Y.—Report from A. E. Raymond.		
Early Harvest.	Twenty Ounce.	Baldwin.
Primate.	Fall Pippin.	R. I. Greening.
Red Astrachan.	Gravenstein.	King Tompkins Co.
s. Yellow Bough.	Porter.	Spitzenburg.
	s. Jersey Sweeting.	Northern Spy.
		s. Talman Sweeting.
9. Madison Co., N. Y.—Report from Geo. W. Baker.		
Early Harvest.	Late Strawberry.	R. I. Greening.
Early White.	Fall Pippin.	Baldwin.
Red Astrachan.	Gravenstein.	Esopus Spitzenburg.
s. Yellow Bough.	Beauty of Kent.	King Tompkins Co.
	s. September Sweet.	Roxbury Russet.
		s. Talman Sweeting.
10. Mercer Co., N. J.—Report from Ira J. Blackwell.		
Harrison.	Maiden's Blush.	Smith's Cider.
Townsend.	Porter.	English Russet.
Summer Hagloe.	Cornell's Fancy.	Ridge Pippin.
s. Yellow Bough.	Summer Bellflower.	Cooper's Market.
	s. Autumn Bough.	Baldwin.
		s. Ladies Sweeting.
11. Salem Co., N. J.—Report from Samuel S. Thompson.		
Early Lippencott.	Maiden's Blush.	Turn-off Lane.
Early Harvest.	Fall Pippin.	Peck's Russet.
American Summer.	Baldwin.	R. I. Greening.
Pearmain.	Cumberland Spice.	Ridge Pippin.
s. Yellow Bough.	s. Paradise.	Smith's Cider.
		s. Ladies Sweeting.
12. Montgomery Co., Pa.—Report from S. W. Noble.		
Maiden's Blush.	Cornell's Fancy.	Smith's Cider.
Summer Pearmain.	Gravenstein.	Raul's Janet.
Red Astrachan.	Porter.	Forwader.
s. Yellow Bough.	White Doctor.	Benoni.
		Princely.
		Cooper's Market.
		s. Ridge Pippin.
13. Armstrong Co., Pa.—Report from John Donaldson.		
Early Harvest.	Porter.	Baldwin.
Red Astrachan.	Fall Pippin.	R. I. Greening.
Early Strawberry.	Lowell.	King Tompkins Co.
s. Yellow Bough.	Autumnal Swaar.	Roxbury Russet.
	s. Jersey Sweeting.	Northern Spy.
		s. Talman Sweeting.

14. Alleghany Co., Pa.—Report from Adam Ammon.		
Early Harvest.	Maiden's Blush.	Northern Spy.
Red Astrachan.	Holland Pippin.	Baldwin.
s. Green Sweet.	Rambo.	Roxbury Russet.
	s. Jersey Sweeting.	Forwader.
		R. I. Greening.
		s. Talman Sweeting.
15. Mercer Co., Pa.—Report from J. A. Nelson.		
Early Harvest.	Lowell.	King Tompkins Co.
Am. Summer Pearmain.	Rambo.	Mammoth Pippin.
Golden Sweet.	Smokehouse.	Spitzenburg, Flush.
s. Yellow Bough.	Maiden's Blush.	Baldwin.
	s. Haskell's Sweet.	(ing.)
		Huh, Nonsuch.
		s. Pumpkin Sweet.
16. Jackson Co., Va.—Report from A. Fleisher.		
White Janiating.	Rambo.	Roxbury Russet.
Harvest Sweeting.	Kingsbury Russet.	Rome Beauty.
Quaker.	White Pippin.	Roman Knight's.
s. High Top.	Pearmain Blue.	Winter Sweeting.
	s. Pumpkin Russet.	Baldwin.
		s. Golden Sweet.
17. Winchester, Tenn.—Report from F. W. Houghton.		
Early Harvest.	Poplar Black.	Turner's Greening.
Carolina Red June.	Fall Pippin.	Limber Twig.
Summer Queen.	Esopus Spitzenburg.	Raul's Janet.
s. Golden Sweet.	Gravenstein.	Wine Sap.
	s. Sweet Mary, (seedling.)	Pryor's Red.
		s. Paradise W. Sweet.
18. Boone Co., Ky.—Report from John S. Matsen.		
Red Astrachan.	Cooper.	Rome Beauty.
Benoni.	Porter.	Smith's Cider.
Early Harvest.	Fall Pippin.	Raul's Janet.
s. Yellow Bough.	Forwader.	Swaar's Red.
	s. Munson Sweet.	Bellflower.
		s. Romanite.
19. Holmes Co., Ohio.—Report from A. McClelland.		
Early Harvest.	Green Rambo.	R. I. Greening.
Summer Rose.	Fall Pippin.	Rambo.
s. Jersey Sweeting.	Huh, Nonsuch.	Belmont.
	Butter Apple.	Newtown Pippin.
		Westfield Seek-no-further.
20. Richland Co., Ohio.—Report from F. R. Palmer.		
Red Astrachan.	Rambo.	Swaar.
Summer Queen.	Maiden's Blush.	Red Canada.
William's Favorite.	Autumn Strawberry.	Peck's Pleasant.
s. Golden Sweet.	Fall Pippin.	Raul's Janet.
	s. Green Sweet.	Jonathan.
		s. Talman Sweeting.
21. Hancock Co., Ohio.—Report from G. W. Powell.		
Early Harvest.	Fall Pippin.	Belmont.
Golden Sweet.	Fall Rambo.	Rambo.
s. Yellow Bough.	Gravenstein.	Yellow Bellflower.
		Forwader.
		s. Broadwell.
22. Fairfield Co., Ohio.—Report from R. J. Black.		
Early Joe.	Rambo.	Belmont.
Early Harvest.	Fall Wine.	Yellow Bellflower.
Early Strawberry.	Fall Pippin.	Raul's Janet.
s. High Top Sweet.	Cooper.	W. Seek-no-further.
	s. Jersey Sweeting.	R. I. Greening.
		s. Talman Sweeting.
23. Cheviot Hills, near Cincinnati, O.—Report from G. Cott.		
Early Harvest.	Maiden's Blush.	White Pippin.
Benoni.	Fall Wine.	Yellow Bellflower.
Summer Queen.	Porter.	Wine Sap.
s. Golden Sweet.	Rambo.	Smith's Cider.
	s. Campfield.	Rome Beauty.
		s. Ladies Sweeting.
24. Hamilton Co., Ohio.—Report from W. F. Bowen.		
Benoni.	Maiden's Blush.	Smith's Cider.
Early Harvest.	Rambo.	Wine Sap.
Carolina Red June.	Porter.	Raul's Janet.
s. Golden Sweet.	Ashmore.	White Pippin.
	s. Bailey's Sweet.	s. Broadwell.
25. Fountain Co., Ind.—Report from Chester Clark.		
Early Harvest.	Fall Wine.	Yellow Bellflower.
Am. Summer Pearmain.	Fall Pippin.	Raul's Janet.
Red Astrachan.	Gravenstein.	Newtown Pippin.
s. Yellow Bough.	s. Jersey Sweeting.	Ortley.
		W. Seek-no-further.
		s. Golden Sweet.
26. Spencer Co., Ind.—Report from John Hackley.		
Early Cotland.	Maiden's Blush.	Rome Beauty.
Early Strawberry.	Fall Pippin.	Smith's Cider.
Benoni.	Rambo.	New-York Pippin.
s. Yellow Bough.	Fall Queen.	Limber Twig.
	s. High Top.	Carolina Red.
		s. Broadwell.
27. Mason Co., Ill.—Report from Amos Heater.		
Trenton Early.	Maiden's Blush.	Wine Sap.
Early Harvest.	Fall Wine.	Limber Twig.
s. High Top.	Fall Pippin.	Yellow Bellflower.
	Rambo.	Raul's Janet.
		W. Seek-no-further.
		s. Talman Sweeting.
28. Schnyler Co., Ill.—Report from Riley M. Horkinson.		
Early Harvest.	Rambo.	Wine Sap.
Keswick Codlin.	Fall Pippin.	Raul's Janet.
Carolina Red June.	Autumn Strawberry.	Esopus Spitzenburg.
s. High Top.	Fulton Strawberry.	Pryor's Red.
	s. Pumpkin Sweet.	Rambo.
		s. Talman Sweeting.
29. Champaign Co., Ill.—Report from H. J. Dunlop.		
Early Harvest.	Cooper's Early.	Wine Sap.
Red Astrachan.	White.	Stuart.
Benoni.	Maiden's Blush.	Fulton.
s. Spice Sweet.	Rambo.	Yellow Bellflower.
	Famense.	Raul's Janet.
	s. Golden Sweet.	s. Winter Bough.
30. Burlington Co., Iowa.—Report from Henry Anny.		
Carolina Red June.	Maiden's Blush.	Raul's Janet.
Kirkbridge White.	Lowell.	White W. Pearmain.
Red Astrachan.	Rambo.	Roman Stone.
s. High Top.	McLellan.	White Pippin.
	s. Pumpkin Sweet.	Wine Sap.
		s. Sweet Romanite.

31. Winnebago Co., Wis.—Report from John Willeox		
Early Harvest.	Autumn Swaar.	Golden Russet, N.Y.
Keswick Codlin.	Lowell.	Famense.
Summer Queen.	Duchess of Oldenburgh.	W. Seek-no-further.
s. Golden Sweet.	s. Pumpkin Sweet.	Perry Russet.
		s. Talman Sweeting.
32. Sank Co., Wis.—Report from M. C. Waite.		
Red Astrachan.	Famense.	Golden Russet.
Early Joe.	Autumn Strawberry.	King Tompkins Co.
Keswick Codlin.	Duchess of Oldenburgh.	W. Seek-no-further.
s. High Top.	Fall Orange.	Yellow Bellflower.
	s. Munson Sweeting.	Lady Apple.
		s. Talman Sweeting.

Keeping Quality of Apples—Notes on Apples in Virginia.

Mr. Wm. H. Ruffner, Rockingham Co., Va., in a letter to the *American Agriculturist*, referring to the fact that the same varieties of apples differ greatly in their time of ripening and their durability, when grown in different locations; and to the danger of relying too much upon fruit books, says:

In our State we have been woefully deceived in the Northern Winter apples. Many of them become simply Fall fruit, and scarcely any of them will keep through the Winter. An experienced apple-grower in East Virginia, who has tried all the best varieties of Northern apples, has declared to me, that, with the exception of the Northern Spy, not one of them can be kept till Christmas. We, in this Great Valley, are elevated 1200 feet above tide water, and might be expected to have a climate about like that of Philadelphia, and our soil is equal to any for fruit, and is geologically the same as that of the best parts of Pennsylvania and New-York; yet it is not safe for us to rely upon any description of apples, made out from Pennsylvania or New-York experience, as to durability. This is a vital point with all who plant for a distant market. Those who live more than 12 hours from market, must rely chiefly upon the long keepers, which may be shipped after the freezing weather has passed.

As an illustration of what I have said, I give below a table showing the difference in the keeping property of a few leading Northern varieties, as proved in the Valley of Virginia, compared with Downing's statement as to the time they may be kept in their native habitats:

Name.	Time North.	Time in Valley of Va.
Baldwin.	March.	January.
Rhode Island Greening.	March.	November.
Fallwater.	February.	December.
Pryor's Red.	March.	January.
Dutch Mignone.	February.	December.
Sweet Vandevere.	March.	January.
Bellflower.	March.	January.
Winter Sweet Paradise.	March.	February.
Newtown Pippin.	May.	April.
Domine.	April.	March.

Such differences, as those indicated above, might occasion an entire failure in the special object of an orchard. A few varieties, such as the Northern Spy, Lady Apple, Grindstone, Swaar, and Winesap, keep nearly as well with us, as with you, and probably these could be relied upon in West Virginia generally, and to these may perhaps be added the Milam, Roxbury Russet, Carthouse (Gilpin), Limber Twig, Broadwell, and Tewksbury Winter Blush. The Raul's Janet, which originated in this State, is one of our best keepers.—But our experience, will not answer as a guide for East Virginia. Of those mentioned above, the Northern Spy, Janet, Limbertwig, Carthouse, and Winesap are the only ones that I have been able to hear of as keeping till Spring, east of the Blue Ridge. Their main dependence in that part of the State is on fruit of Southern origin. Halliday's Seedling, Abram, Brooke's Pippin, Ogleby, Strawn's Seedling, Wellford's Yellow, Culasaga, Nickersack, and Waugh's Crab are among their best long keepers, although it is difficult to keep them later than April in the tide water region.

Ready for Spring.

The following soliloquy was overheard at a neighboring farm-house, a few days ago:

"April is near, so the robins and blue-birds say, and I am nearly ready for it. Let us see. My tools are about all in working order. Last Fall, some of them were in a bad plight, but they have been well stored through the Winter, and by using odd spells of leisure, I have got them thoroughly repaired. The handle of a plow was broken; my harrow had lost several teeth; one of my scythes was badly nicked, and another was bent; the horse-rake was out of gear in several places, and my hoes, shovels, and rakes were pretty badly used. . . . Well, now I have overhauled everything, mending, painting, buying new where necessary, and so have got all in serviceable trim. This season, there will be no time wasted or patience tried in tinkering tools just when I want most to use them. How many a time have I beaten my unoffending cattle and horses, and scolded my hired men, solely because of my previous neglect to buy good tools and then keep them in order! It shames me to think of it, but it shall not be so this Summer.

Then, there are the fences. In a few days, I shall have them all in complete order. Many of the posts in the corner lot are badly thrown out by the frost, and then blown over by the strong March winds. The soil there is clayey and wet, and always racks my fences to pieces. What can be done with it? Doubtless, a thorough draining of the land would help the fence. The posts must be reset; and in doing it, I mean to fill up the holes with small cobble-stones pounded in hard, instead of earth. It is the freezing and thawing of the wet soil near the surface which lifts out the posts; and if I can keep the soil away from them, perhaps it will keep matters straight. I'm bound to try it and see. Then, some of the gate-posts near the house are out of perpendicular, the gates sag and won't latch. Before I sleep again, these must be put in order. I have nailed on the boards which were broken off from the orchard fence; the garden, too, is safe from the pigs and cows; and the rails are all replaced on the fences around the wood-lot and pasture.

What a fine assortment of seeds I have stored up! Sweet corn for the garden, King Philip and the eight rowed yellow corn for the field, and Pop-corn for the children. Here are oats, spring wheat, buckwheat, clover, and timothy, and potatoes, etc., all sorted and ready for use at five minutes' notice. The kitchen garden has not been forgotten. Here, in these drawers, which are divided off into separate boxes, are beets, (seed) onions, carrots, parsneps, vegetable oysters, tomatoes, cauliflowers, cabbages, cucumbers, melons, squashes—what an array! And the seeds are sound and plump, being chiefly of my own raising. Warm up the soil, sun! for these early kinds can hardly refrain longer from sprouting.

Who has better reason than I to be proud of the manure heap? See, there are ten piles, of no mean size, which have been shot out during the Winter from the port-holes behind the stables. Then, the hog-pens have made a fair supply. The sheep-yard will furnish some rich scrapings. The barn yard for the cattle has nearly two feet deep of composted straw, muck and dung. Won't this make the Indian corn grow apace, and won't it give the grass an early start and a heavy swath, and won't it make the whole farm fairly laugh!—And then the hogs-

heads of plaster for the clover, and the ashes for the pasture lot!

I don't think neighbor Brown has kept his cattle and other stock as well for the last two months, as he should have done, to have them come out strong and hearty in the Spring. His cows and steers and yearlings look lean and scrawny. If he did but know it, the opening of Spring is a trying time for stock, and they ought to be fed a little better now than usual, instead of being kept on short commons. Hope he won't loose any by his false economy or neglect. I should not be ashamed to show my stock now to any body. My horses, in particular, are in the highest keeping, and ready for the hard work they may have to do. It is a pleasure to look at their plump, sleek sides.

Next week, I'm going to have a "regular clearing up." Chips, saw-dust, ash-heaps, old boards, brush, bones, sticks, leaves and all kinds of rubbish that accumulate around a house in Winter, shall be raked up and picked up, and all the premises, shall be put in apple-pie order.

Spontaneous Vegetation—Again.

"J. S.," of Woodbury, Conn., takes us to task for our doctrines concerning spontaneous vegetation, in the December No. of the *Agriculturist*. He cites certain facts which he supposes militate against the position there taken: viz., that there is no such thing as spontaneous vegetation known on this earth, but that each plant is descended from a parent of like kind.

1. The well known fact, cited by us, that when pine forests are stripped from a piece of land, oaks spring up in their place, he explains by ascribing it to an original power or property in the land to produce oaks. We still hold to the old fashioned idea that oaks, in such cases, and in every other, grow from acorns, and not from any oak-principle in the soil. These seeds may have been brought there, long years before, by birds, beasts, or freshets, and deposited in the soil and covered up. When the shadows of the pine forests were removed, and the ground was broken up by cultivation, the acorns were brought into a favorable condition to germinate, and they did germinate. Perhaps the burning over of the land, in clearing it up, cracked the tough shells, and so facilitated the growth of the acorns.

2. We said that if marl, taken from ten or fifteen feet below the surface, were placed under a bell-glass to prevent floating seeds from lighting on it, it would often produce white clover and other plants. "J. S." claims this fact as telling on his side. He asserts that "marl is a deep-sea formation, belonging to the cretaceous period of geologists; . . . that no plant or animal now living existed at any former geologic period, and that white clover springing from marl heaps could not come from clover seed produced when the marl was upon the surface, because there were no clover plants at that time."

This is a poser. But what if it were *not true* that "marl is generally a deep-sea formation." The most of our marls are alluvial, and may have been formed since clover has grown upon the earth. Yet even if it were cretaceous, the growth of clover in it is curious, but not very mysterious. Our friend knows that in many geological formations, in which land plants are found, petrified seeds and seed-vessels are found, proving that then, as now, plants were produced from seed. This has been the universal law of vegetation from the very first. Geol-

ogy proves the necessity of a Creator to begin the flora and fauna of each geological period. Our friend applied to the wrong quarter when he asked geology to support his idea of spontaneous vegetation.

3. If this theory were true, we should frequently find plants growing about, which are not described in our standard botanical works. But J. S. must use his eyes very sharply, if he would find a single plant, in this part of the country, which was not mentioned in "Gray's Botany" 15 or 20 years ago. Will J. S. please give us a catalogue of the spontaneously produced plants which he has discovered—it would greatly help the cause of botanical science!

4. He thinks that the growth of lichens and mosses on barren rocks tells in favor of his theory. But he must have used his senses very carelessly, if he does not know that they are produced according to the established laws of vegetation. Has he not seen, or read, what the microscope reveals on this point?

The other facts to which he alludes may be explained in the same way as the growth of oaks after pines. *

Maine Correspondence.

Temperature—Carrot Raising—Free Farms.

To the Editor of the American Agriculturist.

We live 170 miles north of Bangor, in latitude 47° in the valley of the Aroostook, which is supposed to be a cold country. But after summering and wintering here, I find it but little colder here than in New-Hampshire, or other parts of Maine. During December at 7 o'clock A. M., the temperature averaged 18½ degrees above zero, and for January, 6½° degrees above zero. The lowest point last Winter was on Feb. 8—26° below zero.

Speaking of carrots, I have raised great quantities of them, and have fed them to cattle and hogs, and find them very valuable fed raw to horses and neat cattle, and boiled for hogs. For sick horses there is no food equals them for sustaining the body, and keeping down inflammation, and they are as good or better in most cases than medicine. I prepare my ground by putting on manure at the rate of 30 cords to the acre, plow it in 12 inches deep in the Fall; next Spring I cross-plow it 12 inches deep, and work it extremely fine with harrow and rake, in May, and sow 4 lbs. of seed to the acre by drill barrow. Then hoe twice, and weed and thin out to stand 4 inches apart, each plant to stand separate. I have uniformly raised 800 bushels to the acre, year after year, and have never been able as yet to get any more, notwithstanding others tell about 1200 and 1500 bushels per acre. I give the ground a top-dressing of 6 to 8 bbls. per acre, of poudrette of my own manufacture, spread on the rows after sowing, and I think it is equal to the other manure used, and much better than guano of the same cost. I have sold some thousands of bushels, and never had any that weighed over 45 lbs. to the bushel, being 15 lbs. less than stated in the last number of your paper as the weight of carrots.

The government of Maine offer great inducements to all persons to come here and settle, giving to each a farm of 160 acres of as good land as can be found anywhere, upon which can be raised good wheat, and other grain. Corn is raised to some extent, and its cultivation is increasing. Our vegetables can't be beat any where.

MUDSILL.

Lyndon, Me.



AMERICAN FARM SCENES—SPRING—FROM AN ORIGINAL SKETCH BY F. O. C. DARLEY.
(Engraved for the American Agriculturist.)

According to the promise in our January number, we present above the second in the series of four original "Farm Scenes*" by F. O. C. Darley. The picture is so truthful in all its details, and so full of the spirit of Spring, that while looking upon it, we are carried back to earlier days when we "drove the team afield," and practiced what we are now endeavoring to aid others in doing, and we almost sigh to return and find rest from mental toil in the less exhausting labor of the farm.

The farmer, during a brief rest, appears to be in earnest thought—perhaps upon the affairs of the nation, perhaps on some subject pertaining to his calling; and the few minutes spent in apparent idleness, may, in reality, prove the most profitable hour of the day, for labor is successful only when in pursuance of well laid plans. But it is needless to dwell upon the details of the sketch; from the horses that stand at their ease, to the hen and chickens that have strayed from the yard to find insects in the plowed ground, all are in keeping with the beautiful rural scene.

It is no small tribute to Agriculture that it has inspired the most successful efforts of both painters and poets. It shows that therein are the elements which appeal to the higher and better nature, and it needs only that the cultivator shall open his mind and heart to the influ-

ences around him, to become the highest style of man. The noblest men that have lived, Cincinnatus, Washington, Garibaldi, have proved that in such labors may be found enjoyment to satisfy the most exalted powers. And this is not strange. Nature will ever excel art, for it is the work of the Master Artist. While intercourse with men in the strifes of business, or for pre-eminence, continually reveals selfishness and heartlessness which make the heart grow weary, intercourse with nature brings only lessons of beneficence and love. In this connection we may appropriately introduce the following well conceived lines written for the *American Agriculturist*, by George W. Bungay, in which poetry adorns the truths conveyed.

Bronzed Agriculture, with his hand has spread
The board, at which our hungry world is fed—
And should he cast his shining coulter by,
The famished nations must lie down and die.
Not armies of brave hunters in the chase,
Could feed the wants of this omnivorous race,
We have no land of Bulah, where 'tis said,
The trees are loaded down with loaves of bread,
And pigs already roasted run the street,
Squealing for customers to cut and eat;
Where fishes cooked, come swimming in to shore,
And turtle soups, in streamlets pass the door.
This world is practical, and he, in brief,
Must work, who would have daily bread and
beef.

We have two hands to earn our daily bread,
And one mouth only to be daily fed;
Teaching a lesson, even fools might learn,
We have no right to eat, what others earn.

The ancient patriarchs toiled in days of old,
Abram was rich in cattle, sheep, and gold;
In times unknown to iron steeds and steam,
Job had three thousand camels in his team,
Five hundred yoke of oxen in his stalls,
And flocks of sheep, to flock the mountain walls.
He had five hundred asses, and I fear,
They have descendants, in this hemisphere.
The workers are the uncrowned kings of earth,
Lords of the land, without the badge of birth:
They need no coat of arms, no scroll of fame,
No trumpeter, to blow abroad their name,
They swing the ax, where the great forests bow,
And golden harvests smile behind their plow.
But he, who never cultivates his lands,
Like Hermes, has more mouth than heart or
hands.

Yonder, the youthful farmer walks in pride,
Before his steps, both clods and cliques divide,
Though times be harder than the frozen ground,
His bank, amid the shocks on 'change, is sound;
The more it breaks the more his dividends.
He toils among ancestral oaks and pines
Where wood-birds sing, and the wild blossom
shines;
He learns a lesson from each living thing
That folds a blossom or unfolds a wing;
For vines and corn and tessellated grass
Show what has been and what will come to
pass.

O glorious world afloat in crystal air,
The sky bows with its sun to kiss the fair
Prairies of grass and flowers of every hue,
Sunshine and starlight left on petals blue,
As though the beauties of the Summer skies
Had been repeated in the wild flowers' eyes.

* N. B.—These copies are reduced for engraving, from the original sketches, by special permission from the owner of the copy-right, Mr. M. Knödler, 772 Broadway, of this City, who has published large sized, and very beautiful lithographs, 15x19 inches. These will make an appropriate ornament for every dwelling in the country. The price of the four is only \$5. They can be obtained of Mr. Knödler, as above, or we will procure copies and forward, when desired.

The Early Flowers.

Here they are! The Snow-Drop came before the snow banks had melted.

"Already now the snow-drop dares appear,
The first pale blossom of the unripened year;
As Flora's breath, by some transforming power,
Had changed an icicle into a flower."

It is a modest little thing, with drooping head, as if half ashamed at being seen abroad at such an unpropitious season; but if several roots are set together in some sunny nook, their united blossoms make quite a brave show. We confess to a very tender affection for this flower and a few others that come in its train—they are harbingers of brighter days to come.

The Crocus appears not long after the snow-drop. We often gather them in the same bouquet. This is a bolder and more dashing flower than the other. It is larger, holds its head erect, and sports several colors and shades of color. Among them, the *Cloth of Gold* is the earliest, a large, bright yellow blossom, with a brownish stripe down the middle of each petal. *Queen Victoria*, a large white flower; *David Rizzio*, purple; *La Nige*, with a white ground, and purple and blue stripes. But we can not name and describe them all; there are deep blue and light blue, white with blue stripes, blue with white stripes, white with purple base, etc., etc. They are all of them desirable, and so cheap—50 cents a dozen—that most persons can have a large assortment. Like the snow-drop, they require very little care. Plant them in the early Autumn, in any good soil, and they will be sure to grow. But the trouble with many persons is, that they forget to plant them at the right season. In September and October, when the garden is all aglow with Fall flowers, they think very little of the coming Spring, six or seven months away. But when Winter has flown, and these bright, cheery little heralds of the flower-season appear, they are all delighted, and send off at once to the nurseries for plants of the same. We have been told by several commercial florists, that they have repeated applications every Spring for bulbous roots then in bloom! Of course, they can not properly fill such orders.

The *Daphne Mezereon* is one of the very earliest flowers. It is a low shrub, from two to three feet high. The flowers, which appear early in April, are found in clusters all around the shoots of the former year, and they open before the leaves expand.

"Though leafless, well attired, and thick beset
With blushing wreaths investing every spray."

There are two varieties, one with pink and the other with white blossoms, both pleasantly fragrant. This shrub is partial to a dry soil, yet blossoms best in a shaded aspect. As it comes into flower so early, it is advisable to transplant it in the Autumn; though with care it may be removed in the Spring. It is one of the few plants which no garden can afford to be without.

The *Bulbocodium vernalis* is another desirable Spring flower. It is a hardy, bulbous-rooted plant, a few inches high, resembling the crocus, and blooms about the same time. The flowers are pink, and are great favorites with the bees.

To the above, may be added the Mountain Daisy, in its varieties, which are sometimes found in flower under the snow. These plants are often placed under glass, in pits, during the Winter; but this is not absolutely necessary. If set in the garden with a northern exposure, and then covered with leaves or other loose litter, not more than three or four out of a dozen will perish. In our experience, it is generally the

freezing and thawing that comes from a southern exposure that kills them.—Our company of early flowers is not complete without adding the Primrose, or Polyanthus, some varieties of which bloom in April. With us the dark crimson, with a yellow eye, is the earliest.

Gather the above all into one cosy spot in a garden, and what can be more cheerful and gay! It is a defect of many gardens, that their chief attractions are confined to one season, that of mid-summer. Then, flowers every where abound; they are "cheap as dirt," and moreover, the heat is so intense that gardens are less resorted to than earlier and later in the season. It should be the aim of every one who would have more than a second-rate garden, to secure many of those plants which bloom in Spring and Fall. Mid-summer will almost take care of itself. Let our floral readers now make note of the best spring flowers, and then procure them in the Autumn. And in the Fall, observe the flowers of that season, to be secured the following Spring.

Hints on Choosing Shade Trees.

The first consideration, of course, in selecting an ornamental tree, is the character of its foliage in the Summer. If it has dark, rich green leaves, like the locust or horse-chestnut, and is unaffected by drouth or insects, these are good points, certainly. Then again, if the leaves push out early in the Spring, like the Mountain ash, or larch, or scarlet maple, this, too, is a good thing. Does it hold its leaves persistently through Summer and late Autumn, like the lindens and maples, or does it drop many of them, like the elm and butternut, and buttonwood? And how about the colors of the foliage in the Fall months? We could hardly bear to lose the crimson and purple and gold and scarlet of the maples, white ash, tulip trees, and oaks.

These are settled points. But there are other things which should be taken into the account. Deciduous trees are without foliage nearly six months of every year, and their appearance when naked, is worthy of consideration. Take the locust, again. It is fair to look upon in Summer, when robed in full dress, but in the Winter it is stiff and uncomely. Worse yet, are the butternut, black walnut, coffee tree, and Hercules' Club. The child who should walk daily under their branches, would be likely to grow up angular and awkward! How different, in this respect, is the elm, which spreads out a fine net-work of branches, pendulous, swaying, graceful almost as in mid-summer. Nor is the maple altogether deficient in this particular. It often has a delicate spray, particularly those varieties whose seed-vessels hang on into the Winter. So with the linden, to some extent. The European Mountain Ash is enlivened by clusters of scarlet berries. And what these last named trees lack in gracefulness, is made up by their smoothness of trunk and limbs and symmetrical arrangement of branches.

The color of the bark of trees deserves more consideration than it usually receives. This feature, hardly noticed in mid-summer, is revealed when the leaves fall. Among the trees to which we now refer, the golden barked Ash is a good example. The red and the yellow barked lindens are also beautiful trees. Different from these, is the ash-leaved maple, with a bright green bark, also. The striped bark maple, and the red-twigged maple are very desirable trees of this class. Among shrubs, the *cor-*

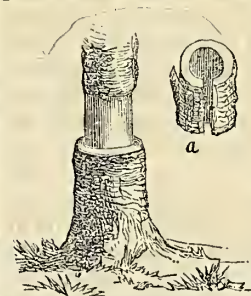
nus sanguinea is almost as beautiful, with its bright shining red bark in Winter, as with its abundant white blossoms in Summer. All these trees and shrubs with various colored barks, are the more striking if they have a background of evergreens.

To Save Trees Gnawed by Mice.

MR. EDITOR: I neglected, last Fall, to bank up my young trees with hillocks of dirt, as you advised, and have consequently suffered a good deal from the mice. The bark on several choice young pear and apple trees is gnawed, in some cases entirely around the tree, and in others part way. What shall I do? Is there any help? Never will I be careless again. JAS. BROWN.

REPLY: Your trees, we think, may most of them be saved by proper care. Where the bark is not completely girdled, pare the edges of the wound smooth, with a sharp knife, cover the same with grafting-wax, or with gum shellac dissolved in alcohol. If your trees are healthy and well established, they may soon heal over.

For other trees, try another remedy: If the girdle is not broader than an inch or two, find a



limb of a large, vigorous tree, from which you can take a section of bark about the size of your girdled tree, as shown in the accompanying illustration; clasp this around carefully, and fit it to the wound above and

below, as nicely as possible. Tie it in place with woolen yarn, and then cover with wax.

Where the wound is several inches long, the chances are very poor, but the tree may possibly be saved. Pare the ragged edges, take plump cions from another tree, and insert them, with one end above and the other below the wound. The cions should be inserted an inch or more above and below the wound; the nicer the fitting of the parts, the greater the chances of success in this vegetable surgery.

Notes for the Orchard.

The present is a suitable time for attacking various insects which infest fruit trees. Of these, the apple worm is quite an important one. During the Summer, the moth lays its eggs in the calyx of the young fruit, where the grub is hatched, and then eats its way into the core. Commonly, the fruit falls off when half grown, or it becomes prematurely ripe. Soon after it falls, the grub leaves it and ascends the tree, where he builds a cocoon house for himself, in some crevice of the bark. The early Spring, therefore, is an excellent time to destroy him. Take him while napping in his cocoon; for on the approach of warm weather he will hatch out and leave it. What can be better April work for the boys! They should have a premium for every dozen cocoons brought into the house and burned.

The Woolly Aphis or American Blight, is another pest of the orchard which should be looked after now. It is called *woolly*, from the substance which covers its body, which enables it to be blown about from tree to tree; this is its mode of traveling. A full description with draw-

ings of the insect magnified, may be found in Vol. XIX, p. 108 (April No.) Where these insects abound, they attack root and branch, puncturing the bark to get at the sap on which they live. Old, rough-barked trees are their favorite abiding places. Now, to dislodge them, the bark of the trees where they prevail, should be thoroughly scraped, and the loose bark burned. The trees should then be washed with a decoction strong enough to put the insects' eyes out. A standard wash is thus made: "Two parts of soft soap, and eight of water, mixed with lime enough to bring it to the consistency of thick whitewash." Put it on with a white-wash brush.

Early in this month, light pruning may be done. Take off all suckers springing up at the base of the tree, also the sprouts on the large limbs in the center. Small limbs in the interior of a tree are of no use for fruit bearing, and they hinder one's climbing about with a basket to gather fruit. If the grafts of a previous year have got well established, all the shoots springing out below them may now be sawed off.

April is the great grafting month—a few hints may be timely; a plain practical description of the process was given in the *March Agriculturist*, p. 82, last year. Provide the best of tools. 1. A fine saw, that will take off a limb smoothly; and of several sorts, the "Bow-Saw," with a narrow, fine tempered blade stiffened by an arched back, is the best. 2. A grafting chisel, for splitting large stocks. 3. A first-rate pruning knife, for paring the edges of all wounds smooth, and for shaping the cious for insertion. Select the largest and healthiest limbs for grafting; though it is a pity to hew off very large limbs, they are so slow in healing over, and the eions after making a strong growth, are apt to break off in high winds. Rather than graft one such large limb, the orchardist should climb out further, and work over several smaller ones. In sawing off branches, they should not be suffered to fall down, and split off the bark below: the branch should be supported with one hand, while the other saws. It is bad policy to put on one's roughest boots when climbing about in the trees. They do not increase one's agility, and they are very apt to make wounds in the bark which do not soon heal over.

What Grapes Shall I Plant?

From every quarter, this question comes to our table. It shows that a great and widespread interest is being awakened on this subject. The question is not easy to answer correctly and fully, in a few words. Some grapes are suitable for Ohio and Virginia and Pennsylvania, that would not thrive as well in New-York, New-England, and other north-western States. Some are suitable only for wine-making: others are best for the dessert. Some succeed well in the open vineyard, while others require a warm, cosy corner, or the shelter of a wall.

If we must answer in a few words, we should say that for the latitude south of Newburg, (40° 30'), *Isabella*, *Diana*, *Rebecca*, *Delaware*, and *Catawba*, would furnish good table grapes. For wine making, the *Catawba* stands first, of course. Yet it is probable that a few others will, sooner or later, divide the honors of the vineyard with it. The *Clinton*, almost worthless for the table, makes a very good wine. The *Oporto*, introduced lately from Western N. Y., promises well, and the *Delaware* is likely to outstrip them all. The vine-growers of Missouri and Ohio, having experimented with it for a few years past, are so highly pleased with it that they are planting

it on a larger and larger scale every year. A late report of the Cincinnati Horticultural Society speaks of it in almost unbounded terms. So well convinced was Mr. Mottier, of Cincinnati, of its superiority, that he, last season, planted a vineyard of 1500 vines, notwithstanding their present high price.

For the region north of Newburg, N. Y., extending, say two hundred miles, we recommend for garden culture, the *Concord*, *Logan*, *Hartford Prolific*, *Diana*, *Rebecca*, *Delaware*, and *To Kalon*. The merits of all these are now so well established, we need not here descant upon them. Only it may be said that persons far to the north of Troy, would do well to give the *Diana*, *Rebecca*, and *To Kalon*, a warmer situation than the others, in order to ensure their ripening before frost. For wine making, none would answer as well as the *Clinton* and *Delaware*.

In addition to the above, a few grapes lately introduced and promising well, may be noticed:

The *Elizabeth* grape.—This originated on the farm of James Hart, near Rochester, several years ago, and is in good repute in that region. It is a white grape, with a compact bunch. The Rural New-Yorker says: "The bunch and berries both resembled the *Isabella* in size and form; skin thin; color greenish white, with a slight purple tinge in the sun. The flavor was good, better than *Isabella*, we thought at the time, somewhat acid, but pleasant."

The *Alvey* grape.—This starts forth with high claims. Mr. S. Miller, of Calmdale, Pa., "considers it of the highest value; he ranks it superior to the *Delaware*, in all those qualities essential to a popular fruit."

The bunches are long and tapering, berry of good size, flavor excellent, and will probably furnish a "must" of first-rate quality. The vine is vigorous, free from mildew, and hardy as can be desired. So the "Farmer and Gardener" asserts, and adds that it is "one of the best of our newer grapes, if, indeed, it do not prove to be superior to all for certain purposes." It must indeed be a remarkable grape, if it can sustain such praises: we want to see it.

The *Crevelling*.—Here is another Pennsylvania grape. Mr. Mead, of the Horticulturist, describes it as resembling the *Isabella* somewhat, yet distinct from it. The bunch narrower, the coloring matter of the skin a deep purple, the berries covered with a thick bloom; ripens earlier than *Isabella*, and is sweet and pleasant. It is identical with the *Catawissa*, and the *Columbia Bloom*. In Pennsylvania, it makes a good wine, without the addition of sugar or spirit. Its only point of superiority to the *Isabella* is its earlier ripening.

The *Cuyahoga*.—Here we have a new grape of undoubted superiority. Its history, as given in the January No. of the Horticulturist, is substantially this: Mr. Wemple, some ten years ago, saw a seedling vine, a few inches high, coming up between the steps of a store in the town of Euclid, which he took up and carried home. Afterward, parting with his farm, he carried a layer of the grape to his residence in Cuyahoga Co., Ohio, whence its name. The bunch is of medium size—smaller, it would seem, than the *Rebecca*—but this will increase in size with the age of the vine. It is said that it ripens from ten days to two weeks earlier than the *Isabella*. This is a very important point, and we could wish the evidence had been fuller and more decisive, for if it is as late as the *Isabella*, it will be comparatively worthless north of Albany. We are told also, that

the foliage is free from mildew, the berries ripen uniformly, and hang well to the stem.

Here is a formal pomological description: "Bunch, medium to large, shouldered, compact. Berries, medium to large, round, covered with bloom. Pulp, melting, juicy, sweet, with a fine musky flavor. Color, pale, yellowish green, tinged with amber when ripe. Quality, best."

If the testimony of good judges will help any of our readers in forming their opinions, let them read the following: Marshall P. Wilder, says: "The *Cuyahoga* is as good as the *White Chas-selas*." Dr. I. P. Kirtland, of Ohio, says, "It is the best grape yet introduced for this locality." The editor of the "Gardener's Monthly" says, "Of some seventy native varieties we have tasted this season, this is decidedly the best."

Mr. Bull's New Seedlings.—This gentleman, the originator of the famous *Concord*, has been occupied for many years in raising seedlings from that good, substantial variety. Out of a multitude, he has selected six, in the third and fourth generation from the parent, which he thinks worthy of trial. He exhibited them at the last annual meeting of the Mass. Horticultural Society. These were all considered excellent, most especially a *white* one, which the committee of examination report as "nearly of the same color as the *White Nice*, with whitish bloom berries, and large bunch, without any foxy taste whatever, and in quality equal or nearly so to any foreign grapes this day shown; and after a careful comparison with the *Concord*, *Diana*, *Delaware*, *Hartford Prolific*, *Catawba*, and *Isabella*, they consider it much the best native grape shown." This is high praise. That *Concord* great-grandson deserves looking after.

A Few Good Shrubs.

As beginners in ornamental planting are oftentimes at a loss to know what are the best shrubs for their gardens and lawns, we will offer them a little advice. The catalogues of the nurserymen often enumerate them by the hundred, with high-flown descriptions annexed, but this only puzzles the inexperienced man, who wants but a dozen or two, and such as are really suitable and best for him. If the writer's experience and observation of fifteen or more years among shrubs, will avail our readers anything, they are welcome to its results.

It is not enough to inquire what shrubs have the finest flowers; the flowers will last, at the longest, only a few weeks, and if the foliage and general habit of the bushes are defective, they will yield but little satisfaction. We want good foliage first, and fine flowers afterwards.

Nor, again, is it best to inquire whether a shrub is one of recent introduction. It is no better for being new-fashioned. The old sorts have been retained in our fathers' gardens from generation to generation, because of their real excellence. And what pleasant associations have grown up around them! Our ancestors planted them, and made love among them, and their children decked their hair with garlands from them. Yes, hold on to the old sorts; make them the basis of your collection, and add the new, only as they have been tried and approved.

The *Japan Quince*.—This is one of the earliest of flowering shrubs, the blossoms appearing in April, and rarely in May. There are two sorts, the scarlet, and white or blush. The first is the most showy; the flowers, when the sun shines upon them, looking like coals of fire. North of Albany, N. Y., the upper half of the shoots

are often killed by the winter, and therefore need the protection of a few evergreen boughs or a little straw. The foliage is remarkably good; it is dark green, fresh and glossy. It bears the shears as well as the hawthorn, and may be formed into any fanciful shape.

Fragrant Clethra.—This is not very common in gardens, but it is well worth having. It is a native shrub, growing wild in low and shady places; hence it does not always succeed in the open borders of our gardens. Give it a deep soil, with a mixture of leaf-mold, and if possible, a little shade, and it will thrive. There is no great beauty in its habit and foliage, but its flowers, appearing in long white spikes, late in summer, are of the most exquisite fragrance. By some it is styled "spice-scented," to denote the peculiarity of its odor. We could hardly get through the year without our annual whiff of the fragrant clethra.

Double Dwarf Almond.—Old-fashioned and time-honored shrub, what garden can be complete without it! Many new-comers have tried to supplant it, but in vain; for on every returning May, it holds up its modest, rosy wreath, and wins the admiration of all who love flowers for their intrinsic beauty, rather than for their mere fashionableness. As long as we have a garden, however small, this shall have an honored place within it.

The Lilacs.—Of course, everybody wishing his home to look home-like, will have some of these. The old purple and the white are excellent, but some of the newer sorts are better. The Persian are more finely cut and neater in the habit of their flowers—some are deliciously scented. The cut-leaved is very desirable, as are the following: Charles Tenth, Persian White, Double Purple, and Josikea. A group of lilacs in the shrubbery, always recalls to us the inventory of Henry the Eighth's garden, taken by order of Cromwell, of which one line runs in this inappreciative way: "Six Lilacs,—trees which bear no fruit, but only a pleasant smell."

The Flowering Currants.—Almost every body has the old, yellow blooming, Missouri currant; and they should add a few others of the same family. The double and single crimson are very fine, with the only drawback of being slightly tender at the north. The Gordon's currant, a hybrid between the yellow and crimson, is hardier and quite desirable. The foliage of all these somewhat resembles that of the black-fruited currant; the flowers are in pretty racemes, appearing in May.

Sweet-scented Shrub. (*Calycanthus Floridus*).—Less common than some others, but one of those shrubs which the more refined and discerning gardener will be sure to have. North of Albany, N. Y., the ends of the shoots are often nipped by the winter; but the plant soon recovers, and produces flowers on its new shoots. The blossoms are curious things. They are brown, or chocolate colored, with no particular form or comeliness; yet they have such an exquisite, pine-apple odor, that they are great favorites with the ladies. May, June, and July, are its flowering months.

The Upright Honeysuckles.—So styled, to distinguish them from the climbing sorts. Perfectly hardy, and grow in any common soil. There are two varieties; one with bright, reddish pink blossoms, and another with pale rosy or white flowers. The foliage appears quite early in the spring, and remains fresh all the summer. The bushes are neat, compact, almost globular, rising from four to six feet high. The

flowers, which open in May, are succeeded by bright crimson and yellow berries which look like drops of coral. The robins are very fond of them. No one should be without one or more of these shrubs.

The Deutzias.—The large, Garland Deutzia, has been a favorite for many years. It makes a high bush, resembling the Syringa, and has white flowers in May and June, not unlike the orange. A little tender at the extreme north, yet enough branches escape the frost to furnish flowers every year. It strikes easily from cuttings, and requires very little care. For a large collection it is indispensable. The small Deutzia *gracilis*, is the other in miniature, only it is hardier, and, in our experience, a more profuse bloomer. It is one of the finest of shrubs.

We could easily extend our list, but purposely make it short for beginners. The foregoing will make an excellent foundation for a shrubbery. At another time, we may extend our catalogue and descriptions.

How to Raise Celery.

A description of Celery is unnecessary for most of those who live in or near cities, where it has long been a staple article for the table, but it is as yet cultivated in comparatively few farmers' gardens. It is a native of England, where it grows as a rank, coarse weed, in marshy ground. By cultivation, the best stalks, which are edible, have been rendered crisp and delicate, of a most agreeable flavor, and equal or superior to any other plant for salads. It is also used as flavoring for soups and made dishes. When once generally known, it will be considered as indispensable in the garden as lettuce, or cabbage. It is usually eaten in Fall and Winter—by proper management it may be had from August to April.

To raise celery for Summer use, a hot-bed is needed, which should be prepared, in this latitude, as early as the second week in March. After the hot-bed is made in the usual manner, but with about twelve inches of soil upon the manure, allow it to stand ten or twelve days for the weeds to spring up, which can then be destroyed, and the bed kept clean with little trouble. Make drills six inches apart by pressing the edge of a board into the soil an inch deep, and sow the seed. The Solid White variety is generally preferred. When the plants are up, thin them to an inch apart. Air them a short time each morning; keep them shaded with mats on clear days, from about 10 A. M. to 4 P. M. Water with cold water about twice a week, applying it at noon, and immediately replacing the mats. Hoe between the rows to keep out weeds, only when the plants and soil are dry; otherwise they become rusted and are spoiled for after-culture. When about three inches high, or near the first of May, they are ready for transplanting. It is well to give more air, to harden them off, a few days before removing them.

Dig trenches one foot wide, two feet deep and four to five feet apart. Put in six inches of well rotted cattle or hog manure, fill in with six inches of soil, and mix the whole thoroughly. Choose a clear day, water the beds freely an hour or more before transplanting, that the earth may adhere to the plants. Fork over the prepared soil in the trenches, and leave the middle rounded up higher than the sides. Put in the young plants twelve inches apart, and shade them for a few days to prevent wilting.

Hoe them occasionally to keep out weeds, but only in dry weather, and when the leaves are

free from dew, and always be careful to keep all earth from the center of the plant; otherwise it will rust and be spoiled. Draw in earth enough from the sides of the trench to cover the lateral roots three inches deep, but do not draw together the heart of the plant while young. If drouth occur, frequent hoeing is better than watering. When eight or ten stalks are formed, and the tallest is eighteen inches high, draw in earth from the sides, and bank up the plant as high as the first outside leaf—draw the stalks together, while doing this, and be careful to keep earth out of the center. When the heart has grown up even with the outside leaves, give a second earthing, drawing it up so that the bank stands about two feet high. As soon as the heart reaches to the outer leaves again, the celery is ready for use. It will attain this point about thirty days after the first banking.

For Fall and Winter celery, choose a rich sandy loam, and enrich it with plenty of good manure thoroughly worked into the soil. Sow the seed in drills a foot apart, the same as directed above. Thin them to about half an inch apart. Hoe frequently to keep down weeds and supply moisture, but never while the dew is on. The plants will be ready for the trenches about the first of July, after which, the treatment is the same as described above. Further directions for digging, preparing for the table, preserving for Winter, etc., will be given at the appropriate season. Many of these hints are derived from a treatise by Mr. Roessle, probably the most successful cultivator of celery in this country.

Sweet Potato Culture—Starting the Plants.

To the Editor of the American Agriculturist:

I herewith give you the method of starting sweet potatoes in the Spring, to obtain sets for transplanting, which I have adopted after twenty years experience. From the 1st to the 10th of April I begin by digging a trench 2½ feet deep by 7 feet wide, and as many feet long as I have bushels of seed. The tubers for seed vary from 1 to 2 inches in diameter. In the bottom of the trench refuse hay or other litter is laid to the depth of a foot, well trodden down, and water poured upon it, a bucketful to each foot in length of the trench; warm water is preferred, as it raises a heat sooner. Next a layer 4 inches thick of warm stable manure is placed on the hay, leveled nicely, and left lying as loose as may be. The manure should have been heaped up a few days before, to commence heating. I then place 5 inches of the lightest soil I can find upon the manure, spread it evenly, and lay the potatoes upon it as near each other as possible without touching. These are covered 1½ inches deep with light soil, and over this I put a final layer of hay, making it one foot thick around the edge of the bed, and rounding it up gradually to the center, where it is 5 feet thick when finished.

The heap is watched closely, and I examine it daily, by making holes in the hay large enough to admit my arm, and run my finger down to the bottom of the potatoes: if it be warmer than blood heat, the hole is left open, and if the heat increases, the hay is turned over to allow the steam to escape. After 10 or 12 days, if the weather be fine, the heap is uncovered for a few hours, and if the plants are coming up nicely, this is repeated daily, leaving the covering off a little longer each time, until it is entirely dispensed with, when the sets are ready for transplanting.

J.

Gloucester Co., N. J.

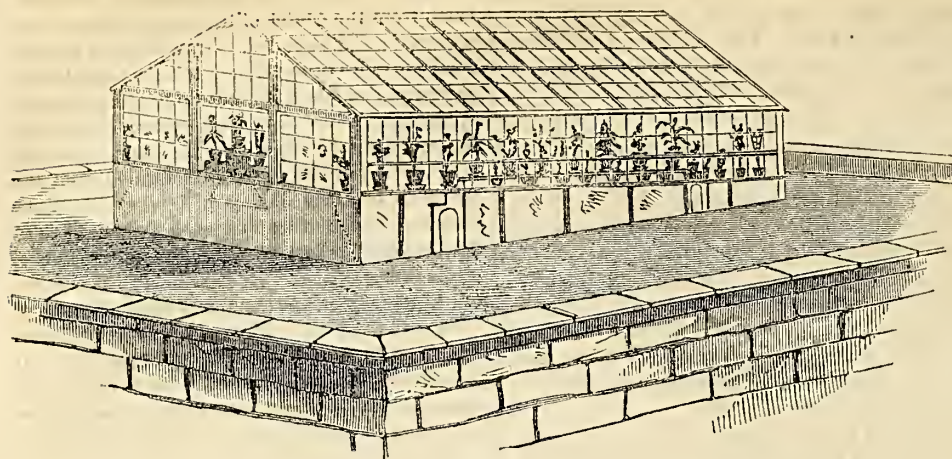


Fig. 1.

A Garden on the Housetop.

GREEN-HOUSES ON THE ROOFS OF CITY DWELLINGS.

Much interest was excited last Autumn, by an article in the Evening Post, of this City, describing a plan proposed by Samuel B. Parsons of Flushing, for covering the roofs of city houses with glass, instead of slate or tin, and thus providing a room in which could be grown a variety of fruits, flowers, and ornamental plants. It was suggested that roofs could be constructed nearly as cheaply of thick corrugated glass, as of tin, and that a light attic room would be provided, which could be heated enough for the growth of plants, even in Winter, by the waste warm air rising from the rooms below—with, perhaps, a little additional heat from a pipe leading up from a stove or furnace, during the coldest days. By covering the attic floor with concrete, raised in the middle, and provided with a gutter around the sides, a layer of soil could be put on, or the plants could be put into pots of earth. In this room might be grown a profusion of grapes, dwarfed peach and pear trees, nectarines, flowering plants and shrubs, etc., furnishing a pleasant resort for the members of the family and visitors, and affording healthful employment as well as entertainment to those taking care of them. The idea is a pleasant one, certainly, and the plan, with some modifications, appears to be feasible and worthy of attention.

An improvement has recently been suggested by Mr. Parsons, applicable to buildings already erected, as well as to those to be constructed. This is, to erect a glass structure like a greenhouse, on the top of the roof, accessible from the attic by stairs leading directly into it. At the request of Mr. Parsons and ourselves, Messrs. Kellum & Son, the well known architects of this city, have prepared the design illustrated by the accompanying engravings. These structures may be of various forms, and adapted in size to the strength of the roof, and of any style suitable to the location, architecture of the building, and taste of the proprietor or architect. By the addition of a few extra supports under a roof of medium size, it may be made to sustain a glass house, say 16x32 feet, which is the scale to which our engravings are drawn.

Fig. 1 exhibits the location on the roof, and the general appearance of the structure. The top of two of the walls of the house is seen in the foreground. (The walls are here represented as of stone; the artist should have represented them of brick, of which house walls are usually constructed.) The lower part of the glass house is made of wood, and adapted to the

slope of the roof. The remainder of the sides, including the roof, is covered with sash. Fig. 2 is the floor plan, having raised shelves around the sides and in the middle, for elevating the plants to the light, and to a convenient position for handling. If the roof be strong enough, zinc or cement boxes may be arranged for holding beds of earth, though experience has shown that grape vines, dwarfed fruit trees, and flowering and ornamental plants, will flourish well in pots of suitable size. The earth in a pot one foot in diameter, will support a large vine, or a tree of sufficient size to produce a considerable amount of fruit. By training them upright, the branches and foliage may be kept within the diameter of the pot, so that a very large number could be grown in a house of the size represented in our engravings. By fitting the sash with double glass, it would be so warm as to protect plants in Winter, and keep them in vigorous growth by the admission of a very little warm air by means of a pipe from below, or even by opening the stair door leading up from a warm hall.

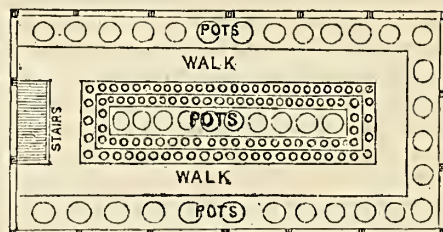


Fig. 2.

We need not stop to describe the utility or beauty of such structures. Should they come into general use in our cities, a birds-eye view from an elevated point would present, instead of a motley array of black and parti-colored roofs, a succession of pleasing glass houses of various form and architecture, decked with the rich verdure and colors of the foliage, flowers, and fruits within. It is perhaps not too much to expect that the fruit produced would repay at least a good interest on the cost; while the pleasure derived from the care of the plants, and from having so pleasant a resort, would be of inestimable value. The female members of a family would become familiar with the cultivation of nature's most beautiful productions.

But this may be painting a new idea in too strong colors. The imagination may perhaps be running a little ahead of the judgment; still, we can not see why the thing is not feasible. Will not some of our wealthy house owners, in this and other cities, try the experi-

ment? A few hundred dollars, which they would perhaps expend upon some useless gew-gaw, will suffice to build a garden lodge on the housetop. We hear that one gentleman is already moving in that direction. Let others try it. Mr. Kellum, or other leading architects here and elsewhere, will doubtless furnish all needed plans and specifications, and the florists and nurserymen will supply the plants. Competent gardeners will, for a small sum, take charge of the houses, until the proprietors have become sufficiently skilled in, and enamored with the occupation, to dispense with outside help.

As the subject is one of great interest, we shall furnish further information and engravings on this topic in future numbers.

About Your Lawn.

Do you say that you have none? Then you are to be pitied. And yet you have land enough: here is an acre or more in front and around your house, which would make a noble scene. If you had only a quarter of an acre, as is the case with many persons, you might get along.

Not every body appreciates the value of a good lawn. In our view, no feature of a country residence is so important as this. One may have a fine house, showy fences, thrifty trees, arbors, and flower-beds, but they do not make a place complete, if it lacks a lawn. Flower borders require constant care, arbors rot down, and fences get out of order, but a lawn, once well made, demands only a little labor to manage it, and then it lasts almost forever. And it is no trifling consideration, that its beauty lasts all through the season. In Spring, the grass starts up at the first song of the robin; in Summer, if the ground be fertile, it is nearly as fresh as in Spring; the fragrance of its frequent mowings is more delicious than the "extracts" of Parisian apothecaries; the sight of children at play upon it, or of tree-shadows stretching across it at morning and evening, is a study which painters love; it heeds not the winds which despoil trees and flowers of their beauty; and in Autumn, amid falling leaves and prevailing gloom, it retains its cheerful verdure until hidden by Winter snows.

One reason why many lawns wear out, is that they are not properly taken care of and fed. The law rules here, as in all agricultural operations, that an equivalent must be returned to the land for that which is taken from it. Now if a piece of lawn is mowed once a fortnight, and the grass raked up and carried off, the land must, of course, be the loser, and should be recompensed accordingly. A common plan is to spread a thin coat of old, well-rotted manure over the grass, in the Fall or Spring, raking off the coarser parts. Some persons use wood ashes, interchangeably with the manure. It is an objection to barn manure, that it often introduces troublesome weeds. Ashes, plaster, pou-drette, or ground bones are without such an objection.

We notice that Mr. Sargent, of Fishkill Landing, thinks it unnecessary to enrich lawns after they are once made, if persons will only use Lawn Mowing machines. And he thinks "the time is not far distant when the scythe will pass away and be no more seen, at least for ornamental purposes." His reason is this: the lawn mower, (which, by the way, he would use once a week,) according to his management, does not gather up the grass, but spreads it evenly on the turf. Mowed so often, the grass never gets more than an inch high, and when cut and spread, it

is hardly visible: in a few hours it wholly disappears. Being left on the ground, it thus answers two good purposes, viz.: as a mulch for the roots in Summer, and as an enricher of the same in Winter. No manure can be so suitable as this.

Mr. S. had noticed that when his machine was allowed, as originally made, to gather up the grass into a box as fast as it was cut, the turf became very smooth, but was not soft to the tread, not as soft as when cut with a common scythe. By allowing the fine, short grass to lie on the ground and sink down around the roots, he finds that his lawn becomes as soft to the foot as a Turkey carpet.

This experiment is interesting. Perhaps a method is here hit upon by which we are going to overcome the difficulty in the way of lawn making arising from "our abominably bad climate." Our bright and hot Summers, much as we complain of them, are, possibly, going to help us make as good "velvet lawns" as our English cousins enjoy. Of course, it will be necessary to mow them as often as once a week, else the grass will become too long to leave upon the lawn without becoming unsightly, as well as hurtful, in a measure, to the roots beneath.

Now this is very well for those who have large lawns, and the means to purchase machines; but for those—and we can not forget they are the majority—who have moderate sized grounds and moderate incomes, we presume the old fashioned method of using scythes will still prevail. And if the grass be cut and constantly carried off, of course the land must be fed with some suitable equivalent. Such lawns must be enriched, indeed, but not with manures in such quantity or quality as to induce a rank growth of grass, or to bring in weeds. For these purposes, we are disposed to rely very much on ground bones and wood ashes, using them alternately. Very old barn manure, composted with muck, may be used occasionally. Whenever noxious weeds—such as daisies, dock, thistles and plantain—creep in, they must be dug up by the hand at once.

We will just add, that no lawn can be kept in good condition without frequent use of the roller. This serves, in the Spring, to level down the inequalities of the surface produced by the heaving of the frost; and it presses back into the ground the roots of clover and grass which are thrown out in the Winter. Its use at all times tends to give the grasses a short and compact habit of growth, similar to what we see by the roadside where the turf is continually trodden by the feet of cattle and sheep. It is this, as much as anything else, that makes a lawn differ from a mown hay field. Let this be carefully noted.

For the American Agriculturist.

Coal Ashes on Grass.

I have experimented with coal ashes and find them well worth applying, although it is doubtful whether they will pay for a very long cartage. I staked out a piece in an old meadow and spread coal ashes on quite thick, early in the Spring. The influence was quite as apparent as a coat of manure or of plaster would have been. It started clover, and the grass was much higher and thicker. There is in most coal ashes from stoves, a small quantity of wood ashes, but not enough to account for the effect produced on my meadow. I agree with you that it is better to spread coal ashes on the soil than to mix them with manure. N. F. G.

Inarching, or Grafting by Approach.

This method of uniting two branches growing on separate roots, and causing them to become one, though not generally applicable, has its advantages in some cases. The practice is very ancient: it was undoubtedly learned from Nature, who not seldom brings the branches of trees across each other in such a way that they adhere and grow together. Of course, this union does not take place until the limbs have rubbed off each other's bark at the place of contact.

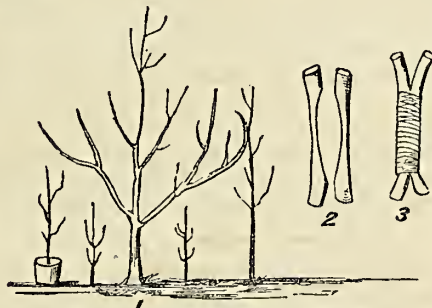
When inarching is done artificially, the process is this: Pare off the bark of the two branches, and cut well into the alburnum (sap-wood). Make tongues in each wound, so that they can be closely united, the liber (inner bark) and alburnum of the one, fitting to the same parts of the other. The notches or tongues are not indispensable, but aid in holding the parts in contact.



Now, fasten the limbs together by strings of bass matting, and support them by stakes so that they can not sway about in the wind and be torn asunder. Cover the parts well with grafting wax, and if they are shaded a few weeks, it will be all the better. It ordinarily requires a year for two limbs to grow well together, and sometimes more than that period. After this, one of the plants may be cut off just below the junction, and the grafted part above will continue to grow on its new stock. By following

this method, two adjoining trees or two limbs, may be grafted together, or a cion from one tree be transferred into the stock of another.

The engraving below illustrates a method frequently practiced by nurserymen, in which 1 is a tree or shrub of a choice kind. Around it are the same species, but of an inferior variety. The ends of branches of the choice variety are transferred to the tops of the others by the inarching process. 2 and 3 show the mode of paring the limbs to be joined, and of tying them together.



This is a somewhat troublesome method of grafting, and therefore will be less often practiced than the common modes. But it is considered more certain than any other. To insure certainty, let the tops of both plants be headed back, at the time of the operation, as this will cause an accumulation of sap around the wounded parts, and assist in their healing over.

This process is applicable for making an ornamental arched gateway of trees. It is sometimes resorted to for the purpose of restoring a lost limb on a choice ornamental or fruit tree. So also in filling up gaps in hedges—and in making

hedges stronger. The plants are set nigh together, then bent across one another like lattice work. At the points of junction, they are grafted together in the manner above described; and in time, the interstices will be filled up with masses of small branches, thus forming a stout palisade.

Camellias are sometimes propagated essentially by this method. If two plants can not easily be brought side by side for the purpose, cions may be cut from one, carried to the other, and the lower end inserted in a vial of water, while the upper end is inarched, as shown in the engraving. The vial of water furnishes a supply of moisture for the cion, somewhat as the roots of the growing plant would do it.

THE HOUSEHOLD.

Blinks from a Lantern....XXVI.



VISITS A CROAKER.

"I should like to know what you are holding your lantern up here so for, old man," said Mrs. Betsey Grimes, as I entered her door and began to examine the premises. "Pray, don't the sun shine, or be you blind, like an owl that can't see in the day time?"

"Softly Mrs. Grimes, the sun does shine, but it enables me to see very few women, and still fewer farmers' wives. Perhaps you do not know that your husband invited me to call and look at your dairy, your poultry, and housekeeping. He thinks you are a model of a farmer's wife."

"Model woman! That's David's last joke. Don't he know that I have got nothing that's fit to keep house with. I might have made something of a show in the world, perhaps, if I had married any body else but a farmer, or if David could find any thing else to do but to work in the dirt. Farming is the poorest business a man can follow. There is not one of my neighbors but has more to do with, and lives in better style and gets her living easier than I do. There is Col. Humphrey's wife lives like a nabob, and I can remember when he first set up his store, and had to hire money to begin with. But he prospered in trade, and has made dollars where we have made cents, and now he is one of the first men in the town—is Colonel of the militia, goes to the legislature, lives in a fine house, dresses his wife like a lady, and keeps two servants in his kitchen. Merchandise pays, but farming is the meanest kind of business."

"But," said I, "You seem to have a very nice house here—neatly painted inside and out—the walls papered, and the rooms very nicely furnished."

"Yes, but how did we get it? We have been at work here early and late, twenty years; have lived half of that time in an old shell that was not fit for a pauper; David has worked like an Indian, and I have worked like a squaw; never kept a servant, couldn't afford it, and this house and farm is all we have got to show for it. Why there is Jo Sanders, the blacksmith, has got a better house than we have, and he has only been

married five years. He keeps a horse and carriage, and hires one of the best pews in church, and pays forty dollars a year for it, while we never could afford to pay more than ten dollars, and have to go to meeting in the same buggy we have ridden in for twenty years. What is the use of trying to be a farmer's wife, or trying to be any thing at all, when the business don't sustain you in it?"

"The house and farm is paid for, I suppose?"

"Yes, thank fortune, it is. And that is the only handsome thing about it. We have always gone upon the principle of paying as we go; except in the matter of buying land. I told David when I married him, that I couldn't sleep o' nights if he run in debt much, and that he need not get in debt at all on my account. So he has bought his farm by piecemeal, except the buildings, and the first sixty acres. He has added a hundred and forty five since, and has paid nearly ten thousand dollars for land, besides what he has spent on the buildings. But if he had been a merchant, like Col. Humphrey, he might have made as much again money, and been a great deal more thought of by his neighbors. Why Mrs. Humphrey told me, that her husband had an income of twenty five hundred dollars a year, and the most we ever sold from the farm, was last year, when it did not quite come up to nineteen hundred dollars. And then we have to pay so much for labor. Why David's labor bills, last year, came to over five hundred dollars, and the most of it in cash. It is very poor business."

"I do not suppose you have any bank account?"

"Well, yes, we have. But we did not make that by farming exactly. I had three thousand dollars when I was married, in bank stock, and I guess it has not grown any smaller. David has used the dividends in his business, but the principal has never been touched. But what is the use of having money laid up, if your business is not prosperous enough to allow you to use it? Col. Humphrey's wife can spend money, but I can't. Her name is out on every subscription paper that comes along. She figures large in the Ladies Benevolent Society, gives whole cuts of cloth to the Home Missionaries, and, the other day, she launched out with ten dollars for the starving in Kansas. I wasn't able to give but two dollars. I suppose some folks would call it stinginess, but I always told David that we must cut our coat according to the cloth. We farmers, who have to work hard for our living, can't expect to live in such style, or figure so high on subscription lists, as merchants who have an income of twenty five hundred a year, all clear profit, and made standing behind a counter, and using a yard stick and scales. That business pays."

"I don't suppose you have any family?"

"Family! Just look in the other room there. I am the mother of eight children, and the oldest is only eighteen, and he is in college. If it wasn't for the children, I should have been dead long ago. The farm is a pretty good place to bring up a family, so far as making the children healthy and well behaved is concerned. But as I was saying, it is no place to make money. My children so far have got along without much sickness, doctor's bills very light, thank fortune. We have pretty good schools at home, but Betsey, my oldest girl, took it into her head that she must go to the Seminary, and that costs us three hundred dollars a year, all in clean cash. The education of the children, you see, takes off the profits, and when the year comes around, we haven't much left. It is very poor business in-

deed, sir, and you will need two lanterns, I guess, to find a farmer that is making any money."

The 'other room,' that Mrs. Grimes spoke of, was a very pleasant sitting room, used also as a nursery. The children, six of whom were at home, were as pretty a group as you will find in any other calling. Mrs. Col. Humphrey, probably, could not boast of any thing more charming. They were well dressed, well behaved, and growing up with all the advantages of a New England education. Each one of the group will cost their parents on a moderate estimate, two thousand dollars, by the time they have reached adult years, and are ready for the responsibilities of life; and all these bills, amounting to sixteen thousand dollars, will be paid for out of the profits of the farm, in a period of thirty years, leaving the farm in better condition, and worth more at the close than at the beginning. And yet, Mrs. Grimes is dissatisfied with her lot, and thinks farming is a poor business, because her bank stock has not quadrupled in value. Her sons and daughters will fill honorable positions in society, and will probably be better men and women than the children brought up in affluence. Verily there is no accounting for tastes, I thought, as I bid Mrs. Grimes good morning, and she added to her adieu: "It is a very poor business, sir."

"Frosted" Feet.

Chilblains, or "frosted" feet as they are usually termed, are too well known to need particular description. It is not necessary that the feet be actually frozen to produce this difficulty; exposure to cold, particularly with persons mostly engaged indoors, will cause it. Woolen socks are usually worn in Winter, which keep the feet unnecessarily warm while in the house. This makes them tender, and also causes free perspiration to dampen the socks, and cold is more sensibly felt when going out of doors. We have observed that persons habitually wearing India rubbers or other waterproof material, are most subject to chilblains: the confined perspiration may have an irritating effect upon the skin, in addition to the influence of cold. The wearing of light slippers while in the house, or changing the socks before going out, would tend to prevent chilblains. To cure them, various remedies are prescribed, as bathing the feet with alcohol, turpentine, or burning fluid, which is a mixture of the two. Mr. Henry Hawk, Blair Co., Pa., recommends an application of common tar, which he says he has proved effectual. Spread the tar thickly on a cloth, and let it remain on the affected part an hour or two. Two or three applications may be needed for a cure. It is easily tried. Having no use for the remedy, we can not speak from experience. *

About Feather Beds.

The doctors agree pretty well in the opinion that feathers are not the best material for filling beds; but the people do not very generally agree with them. Probably the doctors are right, when they tell us that soft beds are enervating, making the body effeminate; that the animal effluvia arising from feathers, though slight, is injurious; and that, except in the intensest cold of Winter, the body is kept too warm by them, for health. Nevertheless, while geese are reared, and feathers make a comfortable bed, people will continue to use them, and live and grow old, despite the doctors; though there is no doubt

that it would contribute to health and comfort, if feathers were entirely discarded, and hair, or husk, or even straw mattresses, wholly substituted. No one having slept for six months or so on a good mattress—long enough to overcome his prejudice in favor of feathers—would willingly go back to the latter.

Some of the objections to feathers may be obviated by proper care. Let them not be used until Winter fairly commences, and put them aside very early in Spring; otherwise they will soon become impregnated with exhalations from the skin, caused by the heat they excite, and be rendered unfit for use. For the same reason they should be thoroughly aired every day when in use. Many have a second tick filled with straw, or what is better, husks reduced to shreds, which is placed above the feather bed in warm weather, and under it in Winter; in either case, it is essential to frequently beat up and air the feathers.

After years of service, the best kept feathers lose much of their elasticity, become matted together, and are scarcely superior to straw. By proper treatment, much of their original excellence may be restored. The best plan is to give them a thorough steaming in a tight box, and with a proper apparatus to beat them thoroughly until dry and light. Nearly the same results can be obtained without expensive apparatus. Put the feathers in a barrel with hot suds, and pound them as you would clothing. Change the suds twice, and pound well each time—the water will show how much dust and other offensive matter they have accumulated. Then rinse them in two waters, place them part at a time in a sheet or other cloth, wring them as dry as may be, and spread them on the garret floor. Give them a good whipping every day with a rattan or other slender rod, for a week or more, until they are completely dry, and lie up loose like new feathers. *

Good Whitewash for Indoors.

At the request of many subscribers who have not read the previous volumes of the *Agriculturist*, we here republish the directions given two years since for the best whitewash we have ever used. For a moderate sized house, say 8 rooms, about 33 lbs. Paris white, and 1 lb. best white glue are needed. Dissolve the glue in hot water; also make a thick wash with the Paris white and hot water, and add the dissolved glue and sufficient water to make the wash of the proper consistence. As the mass stiffens over night, it is better to mix each morning what is wanted during the day. If left over night, warm, or add hot water to make it limpid.

The Paris white is chalk cleansed from its impurities, and is only a very pure whiting—better than is ordinarily used for making putty. We use the Cooper glue, which is considered the best here, but any good white glue will answer. It costs here 50 cents per lb. at retail, and the Paris white 3 cents per lb. Both articles can be obtained in almost every city or village.

The above makes an excellent whitewash, clean and white, and not easily rubbed off. Its first cost is more than lime wash, but it is durable, and for nice rooms it is far preferable.

TO STOP BLEEDING.—Asa Kemper, Ross Co., O., writes to the *American Agriculturist*, that bleeding from a wound on man or beast, may be stopped by a mixture of wheat flour and common salt, in equal parts, bound on with a cloth.

If the bleeding be profuse, use a large quantity, say from one to three pints. It may be left on for hours, or even days, if necessary. In this manner he saved the life of a horse which was bleeding from a wounded artery; the bleeding ceased in five minutes after the application. It was left on three days, when it worked loose, was easily removed, and the wound soon healed.

Cooking Meat "Scientifically."

Poor meat rightly cooked, is often better—more agreeable to the taste, more readily digested, and affords more nutriment—than good meat not properly cooked. A piece of tough, tendinous beef contains quite as much nourishment as the same weight of clear, tender steak, for the latter contains a larger proportion of water. But in the usual process of boiling, most of the flavor and much of the real substance of tough meat, are lost before it is made tender enough for eating. A plan for boiling tough meat, which we have before referred to, is so valuable as to be worthy of discussing again. The process is applicable to beef and mutton, fresh or salted. If corned beef, it should first be soaked in cold water until quite fresh enough to be eaten. As above hinted, a piece of tough, cheap beef, will by the process become quite as good as that which cost twice as much per pound.

Put into a kettle the fresh beef, or mutton, or the freshened corn beef; cover with hot water, and set it to boiling. Put upon the top of the kettle, (or better, fit into the top) a tin pan that will close it as tightly as possible. Nearly fill the covering pan with cold water, and replenish it, when it evaporates. The boiling of the meat is now to be kept up for from *three to six hours or more*, or until the meat is cooked "all to pieces," that is made perfectly tender, so that it no longer adheres to the bones, and will not even hold together to be lifted with a fork. The main point is to *boil it long enough*. The kettle can stand upon the back of the stove from morning until night if need be; slow boiling is about as effective as rapid boiling. If water boils at all, it is heated 212°, and is no hotter than this when boiling ever so furiously.

The "science" of this process is in having the pan of water for a cover. The rising steam, which if allowed to escape would carry off much of the flavor and substance of the meat, is condensed upon the *bottom* of the pan, and falls back into the kettle, so long as the water in the covering pan is below the boiling heat. The covering pan may be improved by bending it down a little in the middle, so that the condensed steam will drop back from the center. If the boiling be so rapid as to heat the water in the covering pan also to boiling, the water may be occasionally changed for cold.

When *thoroughly* done, dip out the meat with a skimmer, remove the bones, and put the meat into a pan or deep dish. Leaving the cover off, simmer the pot liquor down to convenient quantity, and mix it with the meat. Now cover it with a plate, and put on a quantity of weights—saddles, or a stone, or any other convenient weight—and set it aside to cool over night. The liquor will form a hard jelly with the meat, and the mass will become a solid piece, having the form of the containing dish and cover, and will be in nice order to place upon the table, for a substantial meal, or as a cold relish. It is a good preparation for a Sunday dinner; and as it keeps well, is good to have on hand for an emergency. It can be cut into nice slices, and will be tender,

juicy, very palatable, easily digestible, and nourishing. If fat and lean bits be mixed together, the slices will present a beautiful marbled appearance. If the meat be quite fat, the pot liquor may be first cooled and the fat removed, and afterwards be boiled down a little, and then poured on the meat as above described.

The "Apple Pie" Melon, and Other Substitutes for Apples.

After what we considered a fair trial, our verdict on the Japan or "Apple Pie" melon has been "Use it for pies when nothing else can be had," that is, provided a pie be absolutely necessary; and many accounts from experimenters confirm this unfavorable opinion. But it has found an advocate to whom we accord a hearing; for, if by skillful cooking, it can be made a good substitute for apples when the latter fruit is scarce, it is worthy of cultivation. Mrs. S. H. Ingalls, Muscatine Co., Ia., contributes to the *Agriculturist* the following directions, by which she says a really good pie may be made:

Peel the melon, extract the seeds, and slice the remainder as you would an apple. Fill a three quart tin saucepan with it, and pour over cold water enough to cover it, adding two teaspoonfuls of *Tartaric acid*. Boil together until nearly done, then add one and a half teacupfuls of sugar, and one teaspoonful of salt (this is indispensable). Boil ten minutes longer, then flavor with nutmeg, lemon, or cinnamon, as for an apple pie—a few slices of lemon boiled with the melon, makes the best flavor. After pouring in the mixture, sprinkle over it from one to two teaspoonfuls of flour, according to the quantity of juice, which should be plentiful and rich; add a small piece of butter, to each pie. Be careful to press the crust together well, so that the juice will not run out in baking. This quantity will make from three to four pies.

The melon chopped, then boiled and prepared with the acid, sugar, etc., is also a good substitute for apple in mince pies.

Green tomatoes sliced, and even young squashes and pumpkins prepared in precisely the same way make excellent pies, where one can not get fruit, as we have learned from experience in this new western world. These recipes are not intended for anybody else. The directions must be explicitly followed, or failure will result; the salt especially must not be omitted, as it serves to destroy the raw, insipid, disagreeable taste; nor must the tartaric acid be exchanged for vinegar, as only the former will give the peculiar acid taste belonging to fruit.

Oranges and Flavoring.

When oranges are cheap, they may be economically used in place of preserves. Even the common Sicily fruit—which, in its season, can be bought for from 8 to 12 cents per dozen—when peeled, divided and covered with sugar for two or three hours, make a dish superior, to our taste, and more healthful than the rich confections of plums, peaches, etc., found upon many tables. The peel, packed in a jar with layers of white sugar, and covered with brandy, will give an excellent article for flavoring puddings, sauces, cakes, etc.

Toast Pudding.

Contributed to the *Agriculturist* by "J. T. K.," Bridgeport, Ct. Mix 1 quart of milk, 3 eggs, and a little salt, as for custard. Cut a small loaf of bread (bakers' bread is best) into slices half an

inch thick, and lay them separately on platters. Pour the mixture over them, and let them stand 3 hours, or until all the milk is soaked up; then fry brown on a griddle, and serve with sauce.

Baked Dumplings.

Contributed to the *Agriculturist* by S. M. Henyan, Sullivan Co., N. Y. Prepare the dumplings as for boiling, and bake them in the oven until well done. For sauce, brown some butter, stir in a little flour and water according to the quantity needed; sweeten it and flavor with wine and lemon, or spice if liked. Make a small opening in each dumpling, pour in a spoonful or two of the sauce, and serve while warm.

The Best Lemon Pie.

Contributed to the *Agriculturist* by Mrs. S. H. Ingalls, Muscatine Co., Ia. "Take two lemons, five eggs, two spoonfuls of melted butter, eight spoonfuls white sugar. Squeeze the juice of all the lemons, and grate or chop finely the rind of one. Stir together the yolks of three eggs, and white of one, with the sugar, butter, juice, and rind; beat well; then add one coffee cup of good sweet cream (some use half cream and half milk). Beat all for a minute or two. Have ready a plate lined with pastry, into which pour the mixture, which will be sufficient for two pies of the ordinary size. Bake till the pastry is done; meanwhile beat the remaining whites of eggs to a stiff froth, and stir in 4 spoonfuls of white sugar; take the pies from the oven and spread over equal parts upon each, and return them quickly to the oven, and bake a delicate brown. Take care that the oven be not too hot, or they will brown too quickly, before the egg is set sufficiently, which will cause the pie to fall when taken from the oven. This is a beautiful looking pie and in my own opinion, and that of others, the best lemon pie made. The improvements I have added to the excellent recipe of the March No., Vol. 19."

Sour Milk Cheese.

Contributed to the *Agriculturist* by "Housewife." Heat sour, or loppered milk (which is better) in an iron pot over a slow fire, until curd is formed. Take out the curd and press the whey from it with a ladle or the hands. To each quart of curd add one half pint of sweet cream, a lump of butter the size of an egg, and salt to the taste. Place all the ingredients in a frying pan over a slow fire, and stir until it assumes a smooth, thick consistence, when it will be ready for the table, either warm or cold. [Some housekeepers place the curd in a strainer bag and allow the whey to drip out, before adding the cream, etc. The second heating appears to be an improvement.—Ed.]

Sweet Potato Coffee.

Mrs. Ann Hoopes, Vermilion Co., Ill., writes that a very good substitute for coffee can be made from sweet potatoes. Wash and scrape good sound tubers; cut them into pieces, half an inch long; dry them in the stove; roast them as you would coffee, until of a light brown color. Make "coffee" from them in the usual manner, except that the pieces are not to be ground.

To Clean Tripe.

Contributed to the *American Agriculturist* by J. M. Moper. As soon as the fecal matter is emptied out, put into the stomach about one quart of air-slacked lime, add 2 gallons water, warm or cold; then sew it together. Work and shake it for about for a minute or two; empty the mixture out, and it can then be cleaned with a knife and water in a few minutes.



THE HOUR-GLASS.

The Editor with his Young Readers.

About the Picture.

The object which these children are watching with so much interest, would be new to most of you, although once it was very common. Our ancestors, many generations ago, used the instrument for measuring time—a clock or a watch had not then been thought of. The hour-glass was made of the shape you see in the picture, and sand enough was put in it to require just an hour to run from the top division to the bottom; then the apparatus was turned, and the sand ran back again. Marks for half and quarter of an hour were sometimes made on the sides of the glass. The contrivance was ingenious, but somewhat troublesome, as it must be regularly turned, or no account could be kept of the time of day.

This was quite an improvement on some of the contrivances in use still earlier. It is related that King Alfred of England, measured time with wax candles; each of which was made of several different colors; these were arranged so that it took an hour, or some other exact period, to burn down to the next colored division. The Sun dial was known thousands of years ago, and it served a good purpose except in cloudy weather, when it was useless.

The pretty children in the picture appear much amused with the steady flow of the stream of sand. They look quite thoughtful; perhaps they have been told that the instrument marks the passing away of a portion of life. Do you ever think how each tick of the clock tells that life is shortening; and how the strokes of the bell seem to say 'gone!

gone! gone!'—and soon it will all be gone. Try to live so that each moment, as it flies into eternity, shall bear a record of your good thoughts, words, and actions.

What will you Plant?

Have you a garden of your own? Not a large plot, perhaps, but a small piece of ground where you can raise flowers or vegetables. Ask father to allow you a corner somewhere, and then try and make it produce the best plants of all the garden. What will you put into it? Melons, tomatoes, beans, and peas?—or asters, phloxes, pansies, and roses? Suppose you scatter the seeds of thistles, dock, purslane, and rag-weed upon the bed. They will be quite sure to grow. Or if you simply let the ground alone and sow no seed, weeds will spring up, for the seeds are already there, and you need have very little trouble in cultivating them. It will not be necessary to enrich the ground, or to use either spade or hoe, but only let them alone, and a luxuriant crop will follow; while to get melons, or other good vegetables or fine flowers, will require much pains-taking. But then, you are ready to exclaim, these will be worth something when we get them; while weeds are only a nuisance, which no one likes. Exactly so, and now remember that your mind is like a garden, and early years are the Spring time of life. Plant good lessons there, of knowledge, temperance, honesty, patience, love, and all virtues, and cultivate them by practice, and though at times it may be hard work, *it will pay*—the fruit will be peace, and happiness. But idleness and neglect will allow the seeds of profanity, impurity, dishonesty, anger, and every other hateful vice to ripen into

degradation and misery. Think of it as you are planting your garden this Spring.

Looking into the Horse's Mouth.

Our young readers have all doubtless heard the adage "Never look a gift horse in the mouth." In estimating the value of a horse, people judge somewhat of its age and good constitution by the soundness of its teeth. The adage, of course, means that when a horse is *given* to us, we should not immediately open his mouth to see if we can not find fault with him. We have seen young people, who, when presented with a toy, or some more valuable gift, would immediately begin to pick flaws in it, and perhaps say, "it is not as good as John's or Sarah's." We gave a beggar a pretty good second-hand coat recently. He immediately took it up and examined it carefully, as if to see if there were any holes in it, and even looked disdainfully at one arm, which was somewhat threadbare. You may guess whether he got anything, when he called the next time.—Not long since a clergyman of our acquaintance married a wealthy couple, and expected a large fee. As he was about leaving for home, a five dollar gold piece was put into his hands, with a pair of gloves for himself, and

another pair as a present for his wife. He was so vexed at the smallness of the gift, that he left both the money and gloves on the hall table, as he passed out. Judge of his chagrin when he afterward learned that there was a ten dollar bill in *each* of the fingers of two pairs of gloves, designed for himself and wife. He had "looked the gift horse in the mouth."

The Doctor's Fee.

Another illustration of the above adage occurred in Paris a few months ago. A physician attended a wealthy banker's very sick child, which recovered, to the great joy of the parents. The physician, on making his last call, was asked for his bill, and expecting a large fee, he proposed to leave it to the good will of the parents. The mother left the room, and soon returned with a fine kuit purse, and, handing it to the physician, said: "We are grateful to you indeed, doctor; money can not fully repay your kindness and skill—allow me to present this purse, which I have kuit with my own hands, as a token of my gratitude." The physician spurned the gift, and said: "Madam, such gifts are nothing to me; time is money, and I must be recompensed for my time." The lady felt hurt at this rude reply, and answered: "Sir, as you despise this gift, which I had spent many pleasant hours in making for you, as a token of my gratitude, say, how much money will satisfy you."—"My bill," said he, "is two thousand francs."—"The lady immediately opened the purse, took out five notes of a thousand francs each, unrolled them, handed *two* of them to the doctor, rolled up the other three, replaced them in the purse, put it in her own pocket, bade the

"A Farmer I will be." A Song for Boys.*

QUICK and SPIRITED.

Words and Music composed for the "American Agriculturist," by WM. B. BRADBURY.

Soprano.

Alto.

1. I am a hale and heart-y boy, As one would wish to see, And of-ten, though a lit-tle chap, I
 2. All scenes of na-ture I ad-mire, None else so smil-ing seem, The sha-dy nook, the flow-ery grove, And
 3. I love to look at pleas-ant fields, I love the balm-y breeze, I love to hear the lit-tle birds, All
 4. I love to fur-row up the ground, And cul-ti-vate the soil, I love to see it spring-ing forth, The
 5. I would not be a doc-tor, The sick to cure or kill; I would not be a law-yer, no! To

Tenor.

Base.

CHORUS.

think, "What shall I be?" Me-chan-ic, mer-chant, sail-or—Ah, none of these for me! If ev-er I should be a man—If
 lit-tle sil-ver stream; But those who lead a city life, These beauties sel-dom see; If ev-er I should be a man, &c.
 warbling in the trees, And those who live a country life, Such things as these may see; If ev-er I should be a man, &c.
 good and luscious spoil; For fields of wheat and corn, indeed, I dear-ly love to see; If ev-er I should be a man, &c.
 talk a- gainst my will; I may not be a preacher, Tho' I like him of the three; If ev-er I should be a man, &c.

ev-er I should be a man, A farm-er, a farm-er, a farm-er I will be, A farm-er, a farm-er, a

Whistling Chorus.

farm-er, A farm-er I will be.

Copyright secured.

* The girls may accompany them if they like.

doctor good morning, and left the room. He went home, feeling that he had "looked a gift horse in the mouth." The next time any of our young readers receive a present they do not quite like, let them remember the wedding gift and the doctor's fee.

A Song for You.

Here is a song for all of you Boys, and note the * that "the Girls may join them." Indeed that is essential, we think, not only because girls should enter into the *spirit* of the words, but also because their voices are needed to make the harmony complete. Latterly, it has seemed to us that boys are less fond of singing, than they were a few years ago. We find in almost every school a few boys, or half-grown men, who seldom try to sing. They seem to think themselves too large to sing! Perhaps the boys are becoming rougher in temper and disposition. Music, especially singing, has a softening, sweetening effect upon the temper. No

people in the world are less quarrelsome than the Scotch, and a distinguished writer attributes this to the fact, that in Scotland, more than anywhere else, the boys and girls, large and small, and the men and women too, all sing; they sing at school, at the fireside, at the festive gathering, at their work in the fields and in the houses—indeed, everywhere! Boys, if you feel cross frequently; if you are sometimes out of humor with yourselves because you feel that you are cross, then learn to sing; and when you feel sour, sing all the more earnestly. We believe that almost every body could sing, if they tried hard enough, and especially if they began early. —Well, here is a pretty song, one that will leave a good impression, composed expressly for the boys who read the *American Agriculturist*, by our friend, Wm. B. Bradbury, whose sweet music is sung in every church, and in almost every Christian family the country over. Mr. Bradbury loves rural pursuits; he has a beautiful home over in New-Jersey,

and in the song he has doubtless spoken out just what he feels. We are glad to learn that he is preparing a new song book for Boys and girls, to be called the "Carol;" and he says he likes this song so well, that he would like to retain the copyright for his own book.

We very cheerfully leave over a lot of stories, puzzles, etc., prepared for this page, to make room for the song. Let all the Boys and Girls learn it and sing it. Let those of you who can not read the notes, get somebody to teach them to you. Boys, don't omit the notes to be whistled!—We propose that on the first day of May all our young readers sing the song with us at sunrise. You in Maine, and you in New-Brunswick and Nova Scotia begin, and the thousands of our Canada Boys join in, and let it ring through the land, away through the Middle and Western States, and on to the Pacific, and even to the Sandwich Islands.

Here we go: "A Farmer, a Farmer I will be!"

New Problems.

The Song has crowded out all new puzzles we had intended this month except the following:



No. 8. *Illustrated Rebus*.—We have purposely made this pretty difficult; but then there will be all the more pleasure in unraveling it.—Try it.

Answers to Problems.

No. 5. *Biblical Enigma*.—Answer.—Anathema Maranatha, found in 1st Corinthians, xvi, 22.

No. 6. *Rebus*.—Answer.—Condescending.

No. 7. *Figure Puzzle*.—We judge from remarks in numerous letters, that you have had a pretty good time over this puzzle, as we did when we first saw it. The general conclusion is that it can not be done, except by folding the paper so as to make two marks at once, or in some way which can hardly be called fair. We therefore "give it up."

Correct answers received up to March 18th:

Silas M. Donzer, 4; Mary Mosher, 4; Mrs. Robert T. Bibb, 3; Schuyler Duryee, 3; J. Abiel Wilber, 4; "45th-St." (no answer was sent); A. K. Thermen, 4; Nellie K. Smith, 4; Judith A. Brandon, 4; Wm. P. Aylsworth, 4; "South Bend," 3, 4 (Rebus has some excellent points); E. C. Cook Moreau, 3, 4; Josh. S. Deeter, 4; Mary G. Gillett, 3; Dewit C. Chellis, 3, 4; Alson G. White, 3, 4; Robert Fausitt, 3; Hobart Ayres, 3; S. Gillilew, 3, 4; Sarah Brown, 3, 4; Seth W. Fox, 3; Anna B. Bragg, 4; A. L. Ely, 3, 4; M. R. D., 4 (send the words of the proposed rebus); Josiah Ausbeck, 3; A. J. Mahell, 4; Ann M. Judd, 3; Thomas Tibbles, 3; Mrs. E. Agar, 3, 4; Isaac Willard, 3, 4; Annie Littell, 3, 4; Kae E. Lockman, 4; S. R. Fleming, 3, 4; Wesley T. Smith, 3; Elbert M. Swan, 4; Lizzie R. Cook, 3, 5; J. C. Weston, 4 (rebus good and easy); Sarah Traver, 3; Henry W. Langdon, 4; Wm. H. Lyman, 4; Henri W. Young, 5; John Keeler, 3; Deodatus Roe, 3, 4; "Carrie of L." 6; Jarvis H. Arnold, 6; George P. Metcalfe, 5; Otway B. McClure, 5, 6; A. B. P., 5; U. Van Buskirk, 5; John Dickson, 1; Edward C. Sample, 5; J. P. Lester, 5; Salie Elliott, 5, 6; Jane B. Parks, 5; Alice B. Coggeshall, 5, 6; Wm. Boyers, 5; Lizzie H. 5; Wm. G. Kieffer, 5; David Hill, 5; J. L. McCreery, 5, 6 (Rebus good); Adah M. Seely, 5 (you write a very neat letter); George W. Morse, 5; Robert M. Hasbrouck, jr., 5; Rev. Jas. S. Hall, 5; Magdalen Brumbach, 5; E. W. Green, 5; Sophy Joyce, 5; Wm. Joyce, Sen., 6; Priscilla Bonsall, 3; J. Albert Evans, 5; S. L. Fuller, 5, 6; N. H. Haynes, 5; J. Henry Wright, 5; H. C. Humphrey, 6; W. R. Hollingsworth, 5, 6; Wm. M. Sumners, 5, 6; J. W. C. 5; T. H. Smith, 6; R. M. Otis, 5; Rufus W. Weeks, 5, 6; George A. Andrew, 5; A. Harris, 5.

Language Changes.

Fashion has much to do with words, as well as with clothing. The language of our English ancestors would appear almost as strange as would their coats or bonnets, if used by a person now. The following versions of the Lord's Prayer, are a curious specimen of changes in language from the year 1250 up to the present time:

[A. n., 1250.]

Fader our in heven, halewyed bthe thy nam, con th kyngderiche, thy will bethe don in heven and in erthe. Our everieh day breid gif us to-day. And forgive us our dettes, as we forghiven our dettours. And lede us nought into temptatioun, bot delyver us from evil. Amen.

[A. d., 1300.]

Fadir our in heven, Halewyd be thi name, come thi kingdom. Thi will be don, as in hevene and in erthe. Our nehe dayes bred give us to-day. And forgive us our dettes, as we forghiven our dettours. And lede us not into temptatioun, Bote delyvere us of yvel. Amen.

[A. n., 1379.]

Our fadyr that art in hevenes, Hallowed by thy name, Thy kingdom come to be. Thy will done in erthe as in hevene; Give us this day our bread over other substances; And forgi to us our dettis as we forgiven to our detters; and leed us not into temptation; But deliver us from evil. Amen.

[A. d., 1526.]

O oure father which art in heven' hallowed by thy name. Let thy kingdom come. Thy will be fulfilled' as well in erth' as in heven. Give ys this daye, our dayly breade. And forgive ys our trespasses even as we forgoe them which trespas ys. Leede ys not into temptation, but delyvre ys from yvell'. Amen.

[A. d., 1589.]

Our father which art in heauen, halowed be thy name. Thy kingdom come. Thy will be done euven in erthe as it is in heauen.

Glue us this day our daily bread. And forgive us dettes as we also forgive our detters. And lea us not into temptation, but delienar us from euil; for thine is the kingdome and the power and the glorie for euer. Amen.

FIVE DAUGHTERS.—A gentleman had five daughters, all of whom he brought up to some respectable occupation in life. These daughters married, one after the other, with the consent of their father. The first married a gentleman by the name of Poor; the second, a Mr. Little; the third, a Mr. Short; the fourth, a Mr. Brown; and the fifth, a Mr. Hogg. At the wedding of the latter, her sisters, with their husbands, were present. After the ceremonies of the wedding were over, the old gentleman said to the guests, "I have taken great pains to educate my five daughters, that they might act well their part in life, and, from their advantages and improvements, I fondly hoped that they would do honor to the family; and now I find that all my pains, cares, and expectations have turned out nothing but a Poor, Little, Short, Brown, Hogg!"

OUR FIRST DECLAMATION.—The first "piece" we attempted to "speak upon the stage" when a boy, began thus: "Education is a companion which no misfortune can depress—no crime can destroy—no enemy can alienate—no despotism enslave; at home a friend—abroad an introduction—in solitude a solace—and in society an ornament; it chastens vice—it guides virtue—it gives at once grace and government to genius."—We commend this to our young readers—it is worthy a place in your memory.

RECIPE FOR A HAPPY HOME.—Six things are requisite to create a "happy home." Integrity must be the architect, and tidiness the upholsterer. It must be warmed by affection, lightened up with cheerfulness, and industry must be the ventilator, renewing the atmosphere and bringing in fresh salubrity day by day; while over all, as a protecting canopy and glory, nothing will suffice except a blessing from above.

SERVED 'EM RIGHT.—A party of rowdies, in Vermont, "charivariad" or "horned" a newly-married couple. The bride appeared to take it in good part, and inviting them into the house, treated them to a bountiful supply of cider. The after result may be conceived, when we state that she had mixed a liberal quantity of tartar emetic in the cider.

PROMPT.—An Irishman was engaged at a drain, and had his pick raised in the air just as the clock struck twelve. He determined to work no more till after dinner, let go the pick, and left it hanging there! We have seen a case like the above, except as to the place the pick was left.

SOIL ALL RIGHT.—A man boasting in a company of ladies that he had a very luxuriant head of hair, a lady present remarked that it was doubtless owing to the mellowness of the soil.

PREMIUMS FOR 1861.

Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once. Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of Wheeler & Wilson's best \$45 Sewing Machines, (including Hemmers) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of Appleton's New American Cyclopaedia, now in course of publication, consisting of fifteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of Willcox &

Gibbs' \$35 Sewing Machines, including a set of Hemmers. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested it for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of Hemmers, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each,) will entitle the person getting up the club to one of the New \$10 Wringing Machines, described on page 247 of the August *Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of Kendall's Aneroid Barometers, described on page 232 of the August *Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. (If preferred, the best \$8 Subsoil Plow (two-horse) will be given.)

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post paid. 20 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cent each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of Windsor & Newton's Water Color Paints—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid anywhere within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce which we pay.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of Osborne & Hodgkinson's Water Color Paints, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post paid.

Premium O.

237 Subscribers at 80 cents each (or 125 at \$1 each) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$75 Melodeons (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or 105 at \$1 each) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$60 Melodeons (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or 90 at \$1 each,) will entitle the person getting up the club to one of Geo. A.

Prince & Co.'s \$45 Melodeons (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 330 of Nov. No.) to the amount of 12½ cents for each name forwarded at 80 cents, (or 32½ cents for each name sent at \$1), and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Seeds for Free Distribution in 1861.

Each subscriber for the twentieth volume of the *American Agriculturist* (1861) is invited to select four or five parcels of seeds from the list given below—provided the following conditions be noted and complied with. (For further remarks see Febr. No., page 60, or Jan. No., p. 5.)

If to go by mail, the applicant will (of course) furnish prepaid envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelope, and put all the postage stamps upon the right side of the envelope,—one above the other, when two or more are needed, as shown in this pattern. Arranging the stamps thus, will prevent the seeds being crushed in the stamping process in the Post-Office. One ordinary envelope will generally hold the amount of seed-packages carried by two or three stamps. The amount of stamps can be calculated from the Catalogue. Single 1-cent stamps on letters are of no value, unless there be even three of them, as letter postage is rated by the half ounce.

Canada subscribers, and those on the Pacific Coast, will need to substitute U. S. 10-cent stamps (or money) in all cases where 3-cent stamps are named in the catalogue. (Postage is not necessarily prepaid here, on Canada letters.)

When several persons send together, it will frequently be cheaper to receive seeds by Express.

(Descriptive Notes upon the following seeds are given on pages 3, 4, and 5, of January number.)

Field Seeds.

- 120—Imported Giant Wheat, requires ½ of a 3-cent stamp for postage on each package.
 3—Improved King Philip Corn—Single, double, or triple packages, as desired, requiring 1, 2, or 3 stamps.
 3—Stowell's Sweet Corn.....Same packages as No. 2.
 141—Darling's Early Sweet Corn.....Same packages as No. 2.
 142—Yellow Stone Turnip.....½ of a 3-cent stamp.
 143—Waite's Eclipse Turnip.....½ of a 3-cent stamp.
 98—Long Red Mangel Wurzel.....One 3-cent stamp.
 101—Improved Long Orange Carrot.....½ of a 3-cent stamp.

Vegetable or Garden Seeds.

- 8—Daniel O'Rourke Pea.....Packages same as No. 2.
 9—Champion of England Pea.....do.
 58—Napoleon Pea.....do.
 130—Great Eastern Pea.....One 3-cent stamp.
 12—Green Kohl Rabi.....One-third of a 3-cent stamp.
 13—Enfield Market Cabbage.....do.
 145—Flat Dutch (Winter) Cabbage.....do.
 146—Early Battersea Cabbage.....do.
 147—Neapolitan Cabbage Lettuce.....do.
 148—Long Dark Blood Beet.....do.
 149—Extra early Bassano Beet.....do.
 74—Solid White Celery.....do.
 151—Yellow Danvers Onion.....do.
 95—True Hubbard Squash.....do.
 152—Fine large Cheese Pumpkin.....do.
 153—Large Red Tomato.....do.
 154—Ice-cream Water Melon.....do.
 36—Skillman's Netted Musk Melon.....do.
 103—Sage.....do.
 155—Long Cayenne Pepper.....do.
 156—Summer Savory.....do.
 157—Long Prickly Cucumber.....do.
 17—Red Strap-Leaf Turnip.....One half of a 3-cent stamp.
 71—Long White French Turnip.....One 3-cent stamp.
 107—Giant Asparagus.....do.

Flower, Fruit, and Ornamental Seeds.

- 89—Cotton Plant (2 kinds, mixed).....One 3-cent stamp.
 111—Castor Oil Bean (Ornamental).....½ of a 3-cent stamp.

On an average about five of the following varieties will go under a 3-cent stamp.

- 160—Raspberry Seed.....(for Experiments).
 161—Currant Seed.....do.
 162—Gooseberry Seed.....do.
 163—Strawberry Seed.....do.
 23—Mignonette, (a.)
 25—Mixed Nasturtium, (a.)
 27—Extra Cockscorn, (a.)
 28—Double Balsam mix'd (a.)
 30—Tassel Flower, (a.)
 31—Chinese Pink, (a.)
 32—Portulacaeae, mixed, (a.)
 33—Cypress Vine, (a.)
 42—Foxglove, (b.)
 49—Candytuft, (a.)
 51—Phlox Drummondii, (a.)
 56—Euphorbia, mixed, (a.)
 87—Coropsis, (a.)
 122—Mixed Canterbury Bells, (b.)
 123—Gilia nivalis, (a.)
 124—Whitavia, (a.)
 126—Long-tubed Centranthus, (a.)
 164—Sweet Ageratum, (a.)
 a, annual—b, biennial—p, perennial.

The Postage on the *Agriculturist* is positively only Six Cents a Year.

We hear that several Post Masters are charging 12, 18, 36, and even 76 cents a year on the *Agriculturist*. This is wrong. The law expressly says that a Periodical issued at stated pe-

riods, and not weighing over 3 ounces avoirdupois, shall be charged one cent per number, and only half this sum if paid quarterly in advance. The paper for the *Agriculturist* is purposely manufactured so that it shall weigh a small portion less than three ounces. We would add an occasional extra page for more advertising room, could we do so without increasing the postage to our subscribers. The Post Master has several times decided that the postage on the *Agriculturist* is only six cents a year. See one of these decisions on page 96, volume XVII. There has been no change in the law or in the weight of the paper since. The paper must be weighed dry and without the wrapper. Subscribers will please inform us of any futuro over charge.

Business Notices.

Eighty Cents a Line of space.

THE SUREST WAY

To Secure the Very Best and at the Lowest Price,

is to order any thing you want through the Purchasing Agency of H. B. LANE. (See full particulars in advertisement on next page, and note the guarantee of several of the leading men of New-York.) This Agency is established at the request of many individuals who desire some reliable person to save them from imposition and deception in the purchase of

TREES, PLANTS, PURE SEEDS, PURE GUANO, and other FERTILIZERS, GOOD IMPLEMENTS, etc., etc., etc.



AMERICAN HYDROPULT COMPANY, 151 Nassau St., New-York.

NEW WAY OF ATTACKING INSECTS.

Dr. Asa Fitch, the distinguished Entomologist of the State of New-York, in a communication to the *Country Gentleman* of Feb. 14th, in directing a subscriber how to drive insects from his fruit trees, says:—"In my experiments for destroying noxious insects, I have for a long time felt the want of an efficient instrument with which to shower and drench the leaves of trees and herbs with certain medical infusions and chemical solutions, to cleanse them from insect vermin thereon—an instrument more capacious than the syringe and more economical than the garden engine. This want is at length fully supplied by the HYDROPULT of Wm. T. Vose, manufactured by the American Hydropult Company, at 151 Nassau-street, New-York. This implement, costing twelve dollars, if I rightly remember, and sent by express wherever ordered, should be in every country habitation, as a safeguard against fire, if not needed for any of the several other uses to which it is applicable. And the best advice I can give our querist, is to furnish himself with this instrument, and when those bugs again appear on his quince leaves, treat them each and every one to a dose of tobacco water, aloes, quassia, and other bitter infusions, soap suds, weak lye, lime water, &c., and long before he has exhausted the pharmacopoeia, we think he will come to something that is such an efficacious remedy for this insect, that, cated with the discovery, he will immediately let the world know it.

Wheeler & Wilson's S & WING MACHINES AT REDUCED PRICES.

with Glass-Cloth Presser, Improved Loop-Check, New Style Hemmer, Binder, Corder, etc.

OFFICE No. 505 BROADWAY, NEW-YORK.

"This Machine makes the 'LOCK-STITCH,' and ranks highest, on account of elasticity, permanence, beauty, and general desirableness of the stitching when done, and the wide range of its application."—*Report of American Institute, New-York.*

Stuartia Pentagynia.

PARSONS & CO. have a good stock of this fine plant, noticed and illustrated in the *American Agriculturist* for February. Price 75 cents each, six dollars per dozen. Address Flushing N. Y.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Tuesday, March 19, 1861.

The changes in business during the past four weeks have not been very important. Such as have occurred, have been, in the main, encouraging for producers. Trade in most kinds of Produce has exhibited signs of steadily increasing activity,—the effect in part, of the partial resumption of navigation in the interior. The Hudson River boats have commenced their regular trips for the season. The receipts of Breadstuffs have been somewhat heavier. The railroads have been bringing in unusually liberal supplies, especially of Corn. The sales, however, have been large,—far in excess of the arrivals, and stocks of Flour and Grain, here, have been much reduced. In view of the active demand from shippers, and the prospects of an immediate increase of orders from the Eastern states, where supplies are commonly very light at the close of the winter months, most parties seem to anticipate a rise of prices. Money was not abundant and the Banks, early in the month, were very cautious in buying bills of exchange drawn against produce shipped to Europe, which had the effect of depressing rates on such bills, to a point considerably below par. It was, therefore, difficult for merchants having foreign orders for breadstuffs, to raise the means of paying for adequate lots of Flour or Grain, and export movements were checked. This temporary falling off in the foreign demand was not compensated for by any improvement in the inquiry from the regular home trade. Holders of Breadstuffs were consequently compelled to reduce prices. A return of ease in the market for money has partially reversed this state of affairs, and with the favorable circumstance of a decline in rates on freight, the market for Flour, Wheat and Corn closes with an upward tendency. The latest advices from England reported the actual result of the harvest in Great Britain,—showing in the item of wheat, particularly, a very large deficiency,—the yield being in the majority of instances from 1-5 to ¼ less than the usual average result of the crop,—and in weight and quality, a remarkable inferiority was also apparent. The leading London authority, on this subject, says the weight of a bushel measure varied from 47 to 60 lbs., or an average of only 56 lbs, which falls six to seven pounds short of the average in prosperous seasons. Again, though, owing to the coldness of the atmosphere during the harvest, a very small portion of the wheat was sprouted, the bulk of the crops never ripened properly, and much was cut when very green. In the northern counties of England the harvest was protracted beyond precedent, many hundreds of acres being still in the fields in November, and even up to the beginning of the new year. Now it is impossible for the grain under such conditions to be fit for market, or even for human food; and we find therefore that a large deficiency will arise from this cause. Such wheat, even if not utterly spoiled, can never yield any tolerable produce of flour, either in quantity or quality, and is totally unfit to be worked up alone. This is in fact the case with a very large proportion of the crop in every county in England. The deficiency thus revealed in all its magnitude, America alone is competent to meet, at prices which shall put all competition out of the question, and this assures us of a good run of custom for the materials of bread, for many months hence. And as great backwardness in farming operations in the British Islands has resulted from the extraordinary severity of the past winter, it is generally believed that the growing crop must be a short one. This circumstance and the prospect of a general war in Europe seem to be favorable for Americans, and cannot fail to exercise influence on the course of trade in Breadstuffs, favorable, in the main, to the interest of our cultivators. Already, merchants are taking advantage of their position, and such as hold supplies do not appear to be willing to part with them, unless in a rising market. Occasionally, they are obliged to realize on some portion of their stock, in order to procure money to redeem their maturing notes; but as the principal houses get liberal assistance from the strongest of the city banks, they are not, as a rule, obliged to resort to this extreme measure, to obtain relief. Hence, there is no noticeable eagerness to force off supplies,—while there is a manifest desire among purchasers to buy freely, and as promptly as convenient, rather than postpone the execution of orders to a time when it is very probable higher prices might be current in the market. Cotton has advanced a trifle, but has not been active. Reports from the South mention a large falling off in arrivals at the shipping ports. Hay, Hops, Tobacco, and Rice have been in moderate request. Wool has been less active, but steady. Provisions have been sparingly bought. Other branches of trade have exhibited no important variations.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this month	156,000	158,800	274,000	7,800	115,000	128,500
26 days last month	159,500	255,000	133,400	8,270	73,300	77,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this mon.	310,000	1,327,000	1,376,000	14,500	51,500	51,500
26 days last mon.	363,000	1,635,000	1,380,000	26,900	51,500	51,500

CURRENT WHOLESALE PRICES.

	Feb. 19.	March 19.
FLOUR—Superf to Extra State	\$5 10 @ 5 50	\$5 10 @ 5 45
Superfine Western	5 05 @ 5 20	5 10 @ 5 17½
Extra Western	5 25 @ 5 25	5 20 @ 5 25
Fancy to Extra	5 35 @ 5 25	5 20 @ 5 25
Super to Extra Southern	5 35 @ 5 25	5 40 @ 5 25
RYE FLOUR—Fine and Super	3 30 @ 4 10	3 30 @ 4 10
CORN MEAL	3 00 @ 3 40	2 80 @ 3 25
WHEAT—Canada White	1 40 @ 1 55	1 42½ @ 1 55
Western White	1 40 @ 1 57½	1 40 @ 1 60
Southern White	1 45 @ 1 60	1 45 @ 1 65
All kinds of Red	1 15 @ 1 35	1 16 @ 1 35
CORN—Yellow	65 @ 68	61 @ 67
White	68 @ 78	67 @ 73
Mixed	67 @ 68½	59½ @ 68
OATS—Western	36 @ 37	32½ @ 33½
State	37 @ 38	34 @ 34½
Southern	33 @ 36	31 @ 33
RYE	63 @ 68	63 @ 65
BARLEY	68 @ 80	65 @ 73
HAY, in bales, per 100 lbs.	80 @ 1 05	75 @ 1 00
COTTON—Middlings, per lb.	11½ @ 11½	11½ @ 12½
RICE, per 100 lbs.	3 25 @ 4 50	3 25 @ 4 50
HOPS, crop of 1890, per lb.	24 @ 32	18 @ 30
FEATHERS, Live Geese, p. lb.	70 @ 45	38 @ 44
SEED—Clover, per lb.	11 @ 7½	12½ @ 8½
Timothy, per bushel	2 75 @ 7½	3 12½ @ 3 30
SUGAR—Brown, per lb.	4½ @ 7	4½ @ 7
MOLASSES, New-Orleans, p. gal.	30 @ 37½	30 @ 38
COFFEE, Rio, per lb.	10½ @ 13½	10½ @ 13½
Tobacco—Kentucky, &c, p. lb.	3 @ 13	3 @ 13
Seed Leaf, per lb.	6 @ 25	5 @ 25
WOOL—Domestic fleece, p. lb.	28 @ 55	28 @ 55
Domestic, pulled, per lb.	21 @ 42	25 @ 42
TALLOW, per lb.	9½ @ 9½	9½ @ 9½
OL. CAKE, per ton	33 00 @ 37 00	31 50 @ 37 00
PORK—New Mess, per bbl.	16 95 @ 17 00	16 50 @ 16 62½
Prime, new, per bbl.	13 00 @ 13 00	12 50 @ 12 75
BEEF—Repacked mess	8 25 @ 9 75	8 50 @ 9 87½
LARD, in bbls, per lb.	9½ @ 10	9½ @ 10
BUTTER—Western, per lb.	10 @ 14	10 @ 15
State, per lb.	10 @ 14	10 @ 15
CHEESE	8½ @ 11	8 @ 10½
EGGS—Fresh, per dozen	15 @ 16	13 @ 14
POULTRY—Fowls, per lb.	10 @ 11	11 @ 13
Geese, per lb.	8 @ 9	7½ @ 9
Ducks, per lb.	10 @ 13	12 @ 15
Turkeys, per lb.	11 @ 13	10 @ 13
Partridges, per pair	12 @ 18	12 @ 18
APPLES—Prime, per bbl.	1 50 @ 2 25	1 75 @ 2 00
Medium, per bbl.	1 25 @ 1 50	1 25 @ 1 50
Common, per bbl.	1 00 @ 1 25	1 00 @ 1 25
Extra Dessert Apples	2 25 @ 3 00	2 00 @ 3 00
Dried Apples, per lb.	2 @ 4	2 @ 4
Dried Peaches, per lb.	8 @ 13	8 @ 12
Dried Cherries, pitted, per lb.	14 @ 15	14 @ 15
POTATOES—New, per bbl.	2 25 @ 2 00	2 00 @ 2 25
Nova Scotias, per bushel	2 00 @ 2 00	62 @ 67
Peach Blows, per bbl.	1 87 @ 2 12	1 87 @ 2 00
ONIONS, Red, per bbl.	1 13 @ 1 25	1 12 @ 1 25
White, per bbl.	2 50 @ 3 00	2 00 @ 3 50
TURNIPS, per bbl.	50 @ 75	50 @ 62
CABBAGES, per 100	8 50 @ 5 00	8 00 @ 4 50

Exports of Breadstuffs from New-York, January 1, to March 13.

	1860.	1861.
Wheat Flour, bbls.	112,829	419,254
Rye Flour, bbls.	865	1,615
Corn Meal, bbls.	13,910	17,059
Wheat, bushels	117,925	2,256,760
Corn, bushels	78,957	1,508,149
Rye, bushels	100	—
Barley, bushels	—	1,000
Oats, bushels	—	16,541

N. Y. Live Stock Markets.—THE CATTLE MARKETS have exhibited an apparent scanty supply of beefs for the past month, but the greatly diminished demand during Lent has made the 13,555 head or 3,461 per week, nearly sufficient for all wants. Prices have advanced, however, during the past three weeks, fully 1 c. per lb.; At the last general market, March 13th, trade was quite lively, with only 3,204 bullocks on sale for the week. Prices ranged from 9½ c. to 10c. for prime bullocks; 8½ to 9½ c. for medium to good, 7½ to 8c. for poor, with a general average of 8½ c. for all sold.

VEAL CALVES.—Receipts are increasing as usual at this season. For the past month they number 1,636 or 409 per week. Prices remain unchanged, viz. 7 c. per lb. live weight for a very few of the best; 6 c. @ 6½ c. for good; and 5 c. @ 5½ c. for poor.

SHEEP.—Receipts are falling off, and will doubtless continue to do so until after the lambing and shearing season is past. For the four weeks ending March 13th 26,045 sheep or 6,511 per week were received, and sold at improving rates. They are now fully 1 c. per lb. higher than a month ago and sell at prices equivalent to 5½ c. @ 6 c. per lb. live weight for good to prime sheep; and 5 c. for poor stock. A few lots of extra large fat sheep brought 6½ c. Trade is quite brisk.

LIVE HOGS.—Receipts continue to decline as warm weather approaches. Arrivals for the past month were 27,656 or 6,914 per week—quite as many as the demand warrants. Prices are ½ c. per lb. lower than one month ago, or 5½ c. @ 5½ c. for corn fed hogs; and 4½ c. @ 4½ c. for still fed hogs. Market slow.

The Weather has been retrograding for a fortnight past into Winter again, with snows sufficient to block roads and obstruct travel. The cold has also been severe, and it is feared that swollen buds are injured, and that peas and potatoes which were planted two weeks ago when the weather was warm, are frozen. —Our DAILY WEATHER NOTES, condensed, read thus: February 20, light rain A. M., clear P. M.—21, 22, clear, cool—23, cloudy, rain at night—24, clear and fine—25, cloudy—26, 27, 28, clear, fine, warm; frost out and farmers at work. March 1, clear, warm, with rain at night—2, cloudy A. M., clear P. M.—3, fine, warm—New-Jersey Farmers putting in potatoes and peas—4, cloudy A. M., clear and fine P. M.—5, cloudy—6, cool, with raw wind—7, clear and cold, mercury 12° at sunrise—8, clear, cool—9, rainy day—10, cloudy with snow squalls—11, clear—12, 13, cloudy, light rain P. M. each day, ending in snow at night—14, snow storm during day and night, but melted to 3 inches on morning of 15th which was cloudy, 3 inches more snow fell at night and blew into drifts which blocked the railroads—16, clear cool—17, mild, snow mostly melted—18, cold, and clear A. M., cloudy P. M., snow at night—19, snow storm A. M., clear P. M.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain, s, snow.]

FEBRUARY.									
1.....20r	7.....36r	13.....40	19.....30r	25.....22					
2.....42r	8 4 b'w 0	14.....32	20.....35	26.....32					
3.....34	9.....4	15.....36r	21.....31	27.....33					
4.....28	10.....34	16.....36r	22.....28	28.....40					
5.....25	11.....36	17.....36	23.....32						
6.....32	12.....46	18.....29	24.....43	Average.31					
MARCH.									
1.....50r	4.....45	7.....15	10.....36	13.....39r					
2.....44	5.....35	8.....17	11.....26	14.....29s					
3.....46	6.....25	9.....46r	12.....33r	15.....29					

Appeal for the Children's Aid Society.

This Society, which we think is accomplishing much good, is dependent mostly upon unsolicited contributions from all parts of the country. In consequence of the business depression, they fear that some of their charities must be given up, unless more liberally aided. They are engaged in founding Industrial Schools, in supporting the *News Boys' Lodging House*, and in finding good homes in the rural districts for nearly 800 children each year. We hope that this Society's appeal will be liberally responded to. Those disposed to aid, may send their donations to the office of the Society, No. 11 Clinton Hall, Astor-place, or to J. E. Williams, Treasurer, Metropolitan Bank, N.Y.

The New Enterprise—Buying Implements, Plants, Seeds etc.

We take pleasure in commending to our readers the New Enterprise advertised in another column. We have occasionally attended to such matters, to accommodate subscribers whose continued requests would admit no denial without our appearing to be absolutely disobliging, and because we knew of no reliable establishment to which such miscellaneous commissions, small as well as large, could be referred. We prefer to devote our whole attention to the Editorial and Publishing interests of the *Agriculturist*, and are glad that our readers will now have the Agency of Mr. Lane to which they can apply with more freedom, and with entire confidence that any business entrusted to him will be attended to promptly, and with a due regard to their interests.

This Agency will be of especial value to all who wish to obtain reliable Trees, Plants, Seeds, Guano, etc., and other articles which from their nature are peculiarly subject to deception.—Ed.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.
Fifty cents per line of space for each insertion.
One whole column (145 lines), or more, \$50 per column.
Business Notices, Eighty cents per line of space.

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Ten cents per line of space for each insertion.
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FOR BOTH EDITIONS, ENGLISH AND GERMAN.
Fifty five cents per line: \$55 per column.
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A BONE MILL, WITH GEARING COMPLETE,
for sale by **ELLIMAN BROTHERS,**
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JONAS BROOK & BROS.,
PATENT GLACE AND PATENT SIX CORD
SPOOL COTTON.

White, Black, and Colored; on spool of 200, 500, and 2400 Yards. Consumers of thread are requested to notice that BROOK'S SPOOL COTTON took the HIGHEST PRIZES awarded to SPOOL COTTON at the GREAT EXHIBITIONS in LONDON in 1851 and in PARIS in 1855. Being made under the personal directions of the Messrs. Brook, the quality will be uniform, and the lengths guaranteed. With the lustre of silk, it combines the strength of linen, and thousands of families and manufacturers, now using it, unite in testifying as to its excellency for either hand or machine sewing its strength not being impaired either by washing or by friction of the needle. On every spool of the genuine is a ticket—in margin of this advertisement—bearing the name and crest of Brook. Constantly for sale in cases of 100 Doz. each, assorted Nos., by the manufacturer's Agent, WM. HENRY SMITH, 32, 34 & 36 Vesey-st., New-York.

We want a few good Agents

To sell the best kinds of Agricultural Books. Our terms are liberal; and the business is both profitable and honorable.
SAXTON & BARKER, Agricultural Book Publishers,
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PASCHALL MORRIS' DESCRIPTIVE SEED CATALOGUE, ALMANAC AND GARDEN MANUAL for 1861, with complete lists of vegetables. Directions for Culture, and other information of importance to the Farmer and Gardener, forwarded by mail on remission of 50 cts.
Also illustrated Implement and Nursery Catalogues.
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1120 Market-st., Philadelphia, Pa.

Mme. Demorest's

GRAND OPENING OF PATTERNS of the SPRING FASHIONS, 473 Broadway, also the Spring No. of the MILLETORE OF FASHIONS, now ready, 5 cts. Sent post-paid on receipt of 6 cents.

A NEW
ENTERPRISE.
A RELIABLE AGENCY
FOR PURCHASING

Implements, Plants, SEEDS, ARTICLES OF MERCHANDISE, ETC., ETC., ETC.
ALL ARTICLES PURCHASED WARRANTED TO BE OF THE BEST QUALITY.

No Charge made to Purchasers, ABOVE THE Lowest Market Price.

The subscriber would respectfully inform the public, that at the suggestion and particular request of a number of gentlemen (including the Editor of the *American Agriculturist*) he has decided to open at

42 Park Row, New-York City,

(under the Publication Office of the N. Y. Daily Times.)

A Purchasing and Commission Agency,

for the purpose of receiving and executing orders from those who may wish any article which they can not conveniently obtain direct from known reliable dealers; such as:

GOOD BOOKS; also

Agricultural and Horticultural Implements, Good Fertilizers, Fruit and Ornamental Trees and Plants, Seeds, Household Articles—in short, anything to be procured in New-York City and at other accessible points.—Special attention will also be given to procuring Sewing Machines.

Subscriptions for all good periodicals will also be received at the usual subscription price.

No Article not known to be good and reliable will be forwarded in any case. If persons at a distance send their orders through this agency for anything not believed to be valuable, the money will be promptly returned. The invariable rule in the transaction of all business will be Promptness, Integrity, and a strict regard for the interests of the purchaser.

Persons coming to the City may leave their orders at the Office, and the desired articles will be procured with all convenient dispatch, and brought to the office to be called for, or be forwarded by express, or otherwise, as directed.

No charge will be made beyond the lowest regular price of the article purchased—as dealers have kindly offered to allow a wholesale discount to this Agency, sufficient to cover the expense of supporting it, especially as all transactions will be strictly for cash.

All orders should be as plain and definite as possible, describing particularly just what is wanted, and in all cases state exactly how it is to be forwarded.—Send as nearly as possible the exact amount to be paid for it. If not certain on this point, either inquire by letter for the cost, or send enough to cover all expenses; and any surplus will be returned with the bill. Articles can not be sent out on credit. When a reply is needed, a postage stamp should be enclosed.

REFERENCES.

TO WHOM IT MAY CONCERN.

New-York, March 20th, 1861.

We take pleasure in testifying to the well known Business Ability and Integrity of HARVEY B. LANE. His Education and Habits peculiarly fit him for the New Enterprise which he is starting; and we do not hesitate to say that any business that may be entrusted to his care will be conducted with strict fidelity and for the best interest of those who may patronize him. Signed:

DANIEL DREW, Esq. New-York City.
FRANCIS HALL, Esq. Editor of N. Y. Com. Advertiser.
ORANGE JUDD, Esq. Editor of American Agriculturist.
Wm. B. SKIDMORE, Esq. Treas'r Erie R. R. Long Dock Co.
Hon. Geo. T. COBB, M. C. Morris-town, N. J.
Messrs. HARPER & Bro. Publishers, New-York.
Messrs. CARLTON & PORTER, Methodist Book Concern, N.Y.
RALPH MEAD, Esq. No. 11 Centies Slip, New-York.
A. V. STOUT President Shoe & Leather Bank.
HENRY J. BAKER 182 Pearl-street, New-York.

The Office will be opened for the Transaction of Business on and after April 1st. Address all Orders and communications to

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ILLUSTRATED,

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WHAT DICTIONARY SHOULD WE BUY?

The natural answer is, *get the best.* WORCESTER'S QUARTO DICTIONARY, is the latest. It has 20,000 more words and meanings, than any other.

It has 1000 *Pictorial Illustrations*, in the book, with the definitions, which often explain, at once, what no language could possibly make clear.

In defining the word Soul, in the old Dictionaries, the population of Paris is given at 700,000, according to recent statistics it is 2,000,000. It will be noticed that Worcester's Dictionary is in these respects up to the times. *It is full, complete, accurate, and the standard.*

It is everything, that any other good Dictionary could be. Worcester having had over thirty years of labor and experience in finishing his great work, must have known the wants of the American people, in getting up his late Dictionary. His Octavo edition has always been a standard in orthography with our leading American writers, and now his large and complete Quarto Dictionary supersedes that or any other work in print; it needs but to be properly understood by the people to be appreciated, and to do justice to so great and zealous a benefactor as Dr. Worcester, it becomes a generous people to lay aside all prejudices, and inquire impartially into all merits pertaining to this work. All our leading authors adopt Worcester. The following make it their guide:

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The orthography of Worcester is most in use in American books. No invasions are made into established customs. The pronunciation is easily understood and the most improved. The definitions are clear and concise, just expressing that which is needed, rejecting all the verbiage and chaff, and avoiding repetition, which makes it clear and comprehensive.

Worcester's School Dictionaries have all been revised and enlarged, and are more full, for the price, than any other in use; they are the best, and cheapest, and should be used by all wanting a cheap and convenient Dictionary.

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SOLD ON COMMISSION,

Such as Flour, Butter, Cheese, Lard, Provisions of all kinds, Grain, Eggs, Poultry, Game, &c., &c.

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SUCCESSOR TO THE FIRM OF HAIGHT & EMENS.
Refers to the Editor American Agriculturist.
E. R. Cooper, Cashier, Market Bank, New-York.

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The subscriber wishes to employ one School Teacher in each county of the United States, to travel and introduce the "New Encyclopædia of all Nations," and the "Pictorial New World," with Steel and Colored Engravings, Maps, Charts, &c., just issued. Apply by letter immediately to
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LOOK TO YOUR GARDENS!

Important to every Tiller of the Soil!!!

FRANK G. JOHNSON'S

Patent Attenuated Coal Tar!

IN THE FORM OF A DRY POWDER,

For Exterminating all Kinds of Insects and Vermin, IN FIELD AND GARDEN.

Patented March 27th, and December 18, 1860.

It is well known that the insect tribes cause a vast destruction of most agricultural productions throughout the world, rendering a general preventive very important. There is hardly any crop, tree, or vegetable, which is not liable to the ravages of one or more kinds of bugs, worms, or flies.

Various attempts have been made to produce insect destroyers, some of which are in a measure effective, but most of them are too expensive for ordinary miscellaneous use. This preparation of Coal Tar has not only the advantage of being so cheaply furnished that every body can afford to use it freely, but there is nothing in the market, at whatever cost, that produces such perfect results. All other remedies are, intended to destroy the vermin, while this has the simple effect of driving the vermin away, and keeping them away. In ordinary remedies it is necessary to bring the preparation immediately in contact with the insects in order to destroy them, and to repeat the application as often as they return. In the use of the Coal Tar preparation, it is only necessary to sprinkle the remedy about the vines and plants, or wherever there is occasion to use it, to effectively drive away the vermin: and the odor of the Tar remaining, they are kept from returning.

This compound is a fertilizer as well as a bug exterminator. It has precisely the appearance of fine gunpowder, and is equally dry and does not smut the hand at all, however much it may be handled.

The confidence with which this article is recommended to the public, is based upon the results of the most thorough and successful experiments in every variety of application, for driving off every species of INSECTS and VERMIN from every description of vegetation.

Prices—3 lb. boxes \$1.00. Furnished in quantity for the field at reduced rates.

Supplying agents wanted in every section of the country. They will find this the most lucrative business in which they can be engaged, as no one who cultivates a rod of soil will be without this sovereign remedy, as soon as its merits are understood.

Address or apply to

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A VALUABLE FARM FOR SALE OF 330
A acres of choice land, 200 under good improvement, 2 dwellings (1 of brick,) 2 large barns, 2 orchards of apples, 1 of pears, plums, cherries, quinces, &c., &c.; 1½ miles from Railroad station, 20 miles north of Detroit by plank-road. Or half would be sold to suit purchaser. Price \$12,000. If divided, \$6000 and \$7,000. Address: E. WRIGHT HALL, Mt. Clemens, Macomb Co., Mich.
Or a loan wanted of \$6 to \$8,000 on the farm at 10 per cent.

LABELS for Trees and Flowers at 1c. and ½c.
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A superior article, \$2 a bushel; \$5 a barrel, 2½ bu. Our Nansmonds have given fine satisfaction in years past. Send for our new circular of directions in growing and preserving, and experience of patrons in different portions of the country. C. B. MURRAY, (late O. S. Murray & Son,) Foster's Crossings, Warren Co., Ohio.

NEW SEEDLING POTATOES.—"Stone Hills," (very early; Prince of Wales,) seedling of Prince Albert; "Bulkeley Seedlings." The yield of the Bulkeley Seedlings last season, (the sixth from the seed,) was 584 bushels per acre. Orders filled by D. A. BULKELEY, Williamstown, Mass.

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AT GREATLY REDUCED PRICES, viz.:

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Send a stamp for our Illustrated and Descriptive Catalogue of over 80 sorts of New Grapes; also Raspberries, Currants; Gooseberries, &c. Also Roses and Flowering Shrubs. C. P. BISSELL & SALTER, Rochester, N. Y.

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Offer a fine healthy stock of novelties from Europe, embracing, among others, the newest

FUCHSIAS, 50 cts. each; \$5 per dozen.
HELIOTROPES, 15 cts. each; \$1.50 per dozen.
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STRAWBERRY PLANTS,

\$1.50 per 100.

All of the standard kinds at this price. We will furnish an assortment containing 100 of each of the following kinds recommended by the AMERICAN POMOLOGICAL SOCIETY, securely packed for \$5; LARGE EARLY SCARLET, LONGWORTH'S PROLIFIC, WILSON'S ALBANY, HOOKER. Add "Triomphe de Gand," (a superb foreign variety) and the 5 sorts for \$6.

10 fine varieties, 100 of each, our selection, for \$10.

N. B. Money by mail at our risk.

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The price of this mammoth variety will be reduced this Spring to \$2 per dozen, or \$10 per hundred. Delivered in rotation as ordered. The Great Austin was exhibited last year in Boston, New-York, Philadelphia, Rochester, and Albany, and acknowledged to be the most beautiful, and to average the largest and most productive of any other strawberry in cultivation. Orders addressed to either

CHAS. M. MILLER, Shaker Trustee, Albany, N. Y., or WM. S. CARPENTER, 468 Pearl-st., New-York.

Strawberries! Strawberries!

"By their fruits ye shall know them."

What Strawberry shall I plant? Why! the Wilson's Albany.—Why? Because it is the most productive, the largest, and finest berry out. In fact it is the "fashionable" berry. Originated at the Albany Nursery, where plants can be procured by addressing JOHN WILSON, Albany, N. Y.

Price per 100 plants.....\$1

do. 1000 do.\$3

Liberal discount to the trade.

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Offer their fine stock of
FRUIT TREES

of as good quality as can be elsewhere procured, and at low prices AT WHOLESALE AND RETAIL.

Standard Apple, Pear, and other Orchard Trees.

Dwarf Fruit Trees, of different sorts, for the Garden.

Delaware, and other Native and Foreign Grapes, at moderate rates.

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VERSAILLES and other CURRANTS in quantity, as well as BLACKBERRIES, RASPBERRIES, STRAWBERRIES, and GOOSEBERRIES.

PEAR STOCKS and CHERRY STOCKS of fine quality

Of Ornamental Trees and Plants they can also supply the varieties generally required, whether for

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Our STREET TREES are of very fine size and quality, and our SHRUBS embrace all the novelties, as well as those needed in quantity for massing, which we sell at reduced rates by the quantity. They invite especial attention to their Evergreen Trees and to their Rhododendrons and other Evergreen Shrubs, which are very healthy and of fine form.

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Where, also, orders may be left, and specimens of trees, shrubs, etc., may be examined, during the planting season.

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Pine Hill Nursery, near Buffalo, N. Y., offers for sale a general assortment of Fruit and Ornamental Trees and Shrubs. The collection of Fruit consists of all worthy of general cultivation, including Grape Vines, Foreign and Native.

Of Apples, Cherries, and Dwarf Pears, a large stock of very thrifty and stocky trees is on hand of the best leading varieties at low prices. Orders respectfully solicited. Catalogues sent to all applicants.

FOR SALE.—LARGE STANDARD PEAR

Trees of the choicest varieties; also, Plum, Cherry, and Apple Trees, and many kinds of Shrubby, &c., &c.; at our Nurseries in Tioga, Tioga Co., Pennsylvania.
Tioga, Sept. 26, 1860. WICKHAM & BLOODGOOD.

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Woodbury, New-Jersey.

DAVID J. GRISCOM, Proprietor.

The attention of persons stocking or replenishing nurseries, or having extensive grounds to improve, is particularly invited.

NATIVE EVERGREENS.—The following varie-

ties, 5 to 12 inches high, at \$5 per 1000; Balsam Fir, White Spruce, Arbor Vita, White Pine and Hemlock.
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ONE MORE BARGAIN.—Extra size, (5 to 7 ft.)

Am. Arb. Vite, at a sacrifice to clear a piece of ground. Also, \$6,000 Arb. Vite, Hemlock, W. Pine and Balsam Fir from the forest. Send 1 ct. stamp for a circular.
WM. DAY, Morristown, N. J.

EVERGREENS.—See J. W. Adams' Adv't in March No.

Po'keepsie Small-Fruit Nursery.

Amateurs and others wishing the choicest and newest varieties of Strawberry Plants, etc., are requested to send for a descriptive Catalogue of *Strawberries*, *Raspberries*, *Currants*, *Gooseberries*, *Grapes*, etc., grown at the Po'keepsie Small-Fruit Nursery. As they are made a specialty at this nursery, I am enabled to offer 1st quality plants at low rates.
EDWIN MARSHALL, Po'keepsie, N. Y.

Iona Vines, and the Wilson Strawberry.

The Subscriber is prepared to furnish any vines, for sale at Iona, in large or small quantities, at Dr. Grant's lowest Catalogue prices.

One vine each, one year old, of Concord, Delaware, Diana, Hartford Prolific, Louisa, Northern Muscadine, Rebecca, and Union Village, carefully packed, for \$5.

Fine plants of Wilson's Seedling Strawberry, warranted true to name, at \$1 per 100, \$5 per 1,000, or \$35 per 10,000.

No charge for packing.

My Catalogue sent on application, and Dr. Grant's large Descriptive Catalogue of two three-cent stamps.
April, 1861. D. S. HEFFRON, Utica, N. Y.

FRENCH HYBRID GLADIOLUS.

The most superb hardy flowering bulb of the garden, is that which comprises the Hybrid productions of the Gladiolus. Our collection of 100 varieties can not be surpassed—no description can give an idea of their brilliancy of color, varying from pure white to rich salmon and brilliant carmine, to the most intense scarlet and crimson.

Descriptive Catalogues on application to

J. M. THORBURN & CO.,
15 John-st., New-York.

HUBBARD SQUASH.

I have received from the Mass. Horticultural Society a piece of Silver Plate as ORIGINAL PRODUCER of this celebrated squash. A package of about 50 seeds of the purest quality grown, WARRANTED to reach each purchaser, 15 cts. Four packages, 50 cts. JAMES J. H. GREGORY, Marblehead, Mass.

CARROT, BEET, AND TURNIP SEEDS, of the various kinds, of extra quality, for sale by J. E. MACOMBER, Wholesale Seed Grower, Portsmouth, R. I.

2000 LARGE CROWNS of genuine LINNEUS RHUBARB, and 25,000 Wilson's Seedling Strawberry Plants, true to name. Terms low. S. JUDD STEWART, Inquire of STEWART & Co., 393 Pearl-st., New-York.

Premium Seed Corn for Sale.

Improved King Philip. The most productive corn in cultivation. 11½ bush, was raised to the acre last year in this State, ripening in a little over 100 days.

Profligate Golden Drop. The most productive and beautiful yellow corn grown; this corn is very heavy, weighing 62 lbs. to the bushel; a bushel of ears will produce 1½ quarts of shelled corn. It ripens in 110 days; ears very large, 8-rowed.

Improved Crystal Flint. A beautiful 12-rowed white corn producing two and three ears to the stalk, very productive, ears large, and ripening very early.

The above are selected from 25 varieties, grown by me in 1859, and can be recommended to farmers.

Price, Improved King Philip Corn, per bush, \$2.50; per peck 75c. Profligate Golden Drop and Improved Crystal Flint, \$3 per bushel; \$1 per peck.

All orders addressed to W. S. CARPENTER, 468 Pearl-st., New-York.

ONE PACKAGE of dwarf broom corn seed sent post-paid on receipt of 15 cts. A. CHANDLEE, Sandy Spring P. O., Montgomery Co., Pa.

TREE SEEDS! TREE SEEDS!

SCHROEDER & CO.,

NO. 79 STATE STREET, ROCHESTER, N. Y.

Offer among many other varieties of Tree Seeds, the following leading kinds, at the prices named:

Abies Excelsa (Norway Spruce).....	per lb. \$0.50
Pinus Austriaca (Austrian Pine).....	1.75
Silvestris (Scotch Pine).....	1.50
Strobus (White).....	2.50
Cembra (Cembra Pine).....	1.00
Pinea (Italian Stone Pine).....	2.00
Pumilis (Dwarf).....	1.50
Laricina (Corsican).....	6.00
Pinaster (Maritima).....	1.00
Picea Pectinata (European Silver Fir).....	1.00
Larix Europaea (European Larch).....	1.00
Juniperus Communis (English).....	0.50
Virginiana (Red Cedar).....	1.00
Thuja Oxymetris (American).....	1.00
Orientalis (Chinese).....	3.00
Fraxinus Excelsior (European Black Ash).....	1.00
Acer Platanoides (Norway).....	1.00
Rubrum (Scarlet).....	3.00

PEAR SEEDS, \$2.00 per lb., in quantities of 25 lbs., and over, at wholesale prices.

Apple Seeds, Cherry, Plum, and Peach Pits. Angers and Fontenay Quince, very strong.

Pear, Plum, Dwarf Apple, Dwarf Cherry, Manetti Rose, Stocks, &c., &c.

Mammoth Cabbage.

Marblehead Mammoth Drumhead Cabbage, averaging over 20 lbs., a plant by the acre! Sometimes weighing over 60 lbs., and measuring nearly six feet around the solid head.

Mason and Stone Mason Cabbage, under high culture often-times every plant on an acre will set a marketable head, I hereby offer \$5.00 for one ounce of seed of any variety of Drumhead, that shall excel these in HARDNESS, TENDERNESS, AND SWEETNESS, AND RELIABILITY FOR HEADING. Circulars containing FACTS from farmers who raise them by the acre, gratis.

Mammoth Cabbage, per package 25 cents; 5 packs, for \$1.—Mason and Stone Mason 35 cts. per oz.; 4 oz. \$1.—Seed WARRANTED to reach every purchaser.

NEW VEGETABLE SEEDS.

MADRAS EDIBLE POD RADISH.....	per packet. 25c.
LESTER'S PERFECTED TOMATO.....	do. 12c.
EARLY WHITE JAPAN MUSK MELON, (extra fine) do.	25c.
EARLY GREEN do. (extra fine) do.	25c.
STRAWBERRY WATER MELON.....	do. 25c.
HONEY DEW do. do.	do. 25c.
NEW COTTAGE'S KALE.....	do. 10c.
NEW PINE APPLE BEET.....	do. 10c.
HONOLULU NECTARINE SQUASH.....	do. 25c.

The above will be mailed post-paid on receipt of the amount annexed. Descriptive Catalogue of Vegetable and Agricultural Seeds will be mailed on application.

J. M. THORBURN & CO.,
15 John-st., New-York.

Choice and Reliable

Vegetable and Flower Seeds.

B. K. BLISS,

Seedsman and Florist, Springfield, Mass.,

Would invite the attention of all who are engaged in the culture of *Flowers and Vegetables* to the ninth edition of his *Descriptive Seed Catalogue* just published, containing an accurate description of 1,350 varieties *Flower Seeds*, and upwards of 350 varieties of *Vegetable and Agricultural Seeds*, with special directions for the culture of each variety so simplified that any person, however inexperienced, can not fail of success.

The list of varieties will contain all of the leading varieties introduced by European Florists the last season. Seeds forwarded by mail to all parts of the country. The Catalogue will be mailed to all applicants enclosing a 3-cent stamp.

See advertisement in March No. of *Agriculturist*. N. B. His new Plant Catalogue, containing all the novelties of the season will be published April 1st, and mailed as above.

NEW FLOWER SEEDS.

CLARKIA PULCHERRA "Tom Thumb".....	Per Packet. 25c.
AURICULA FLOWERED SWEET WILLIAM, splendid do.	25c.
IPOMEA LIMBATA ELEGANTISSIMA, robust & hardy do.	25c.
IPOMEA TRUNCATA, New dwarf branching habit do.	50c.
IPOMEA COCCINEA "VICTORIA".....	do. 25c.
BEAUTIFUL GIANT EMPIRE ASTER.....	do. 25c.
DOUBLE TALL TREE WALL FLOWER.....	do. 25c.
NEW DWARF CRIMSON BOUQUET STOCK.....	do. 25c.
SCARLET CHINESE EGG PLANT.....	do. 10c.
GLADIOLUS GANDAVENSIS HYBRIDUS, (fine seed) do.	25c.

The above will be mailed post-paid on receipt of the amount annexed—on application we will mail our special List of Novelties for 1861, containing 38 entirely new varieties of Flower Seeds. J. M. THORBURN & CO., 15 John-st., New-York.

SEEDS! SEEDS! SEEDS!

GARDEN, VEGETABLE, GRASS, AND FLOWER SEEDS, OF EVERY DESIRABLE VARIETY. PRICED CATALOGUES SENT FREE BY POST ON APPLICATION.

No. 1.—Descriptive List of Flower Seeds, Horticultural Implements, etc.
No. 2.—Vegetable, Grass, Herb, and Miscellaneous Seeds.
No. 3.—Wholesale Priced List of Vegetable Seeds, &c., for Dealer's use. ALFRED BRIDGEMAN, No. 576 Broadway, New-York City.

FLOWER SEEDS. FLOWER SEEDS.

After cultivating over one thousand varieties of Flower Seeds, I have selected about one hundred kinds of the most hardy, showy, and attractive, of which I will furnish, neatly put up, any 33 kinds on the list for \$1, and send by mail with postage prepaid. Send for a Catalogue.

G. R. GARETSON, Flushing, N. Y.

Choice Vegetable Seeds by Mail.

The following varieties will be mailed to any address in the Union, on receipt of the price affixed, which may be remitted in postage stamps or current bills.

50 Seeds Hubbard Squash.....	15c.
20 do. Honolulu do.....	15c.
50 do. Boston Marrow, pure.....	15c.
50 do. Japan Apple Pie Melon.....	15c.
100 do. Perfection Tomato (Pomme d'oro Lesteferano).....	15c.
1 Packet Early Paris Cauliflower (the best in Cultivation).....	25c.
1 do. Marblehead Mammoth Cabbage (Gregory's).....	25c.
½ oz. Stone Mason Cabbage.....	do. 15c.
½ oz. Premium Flat Dutch Cabbage.....	15c.
1 Packet Lee's New Sprouting Broccoli (a new English variety).....	50c.
1 oz. Yellow Danvers Onion (the best variety).....	25c.

The entire collection will be sent by mail, pre-paid, for \$2. Cash must always accompany the order.

The above may all be relied upon as the very best of their kinds in cultivation. Address B. K. BLISS, Springfield, Mass.

Bedding Plants, Seeds, etc.

E. NEWBURY, Brooklyn, Conn.
Offers for sale, this Spring, a large and fine stock of Plants, mostly suitable for bedding out, and on the most reasonable terms. Orders will be faithfully executed. Catalogues sent free to every applicant. Among them are Verbenas, (90 var.); Fuchsias, of which 16 var. are new, being offered for sale for the first time in this country; Gladioli, (100 var.); Tritomas, (3 var.); Hollyhocks; Carnations; Picotees; Geraniums, (50 var.); Heliotropes; Dahlias; Dwarf Phloxes, (46 var.); Bouvardias; Lantanas; Petunias; Japan and other Lillies, together with a large variety of miscellaneous plants, etc.

Flower Seeds put up in packages as follows:
No. 1.—25 papers choice Annuals..... \$1 00
 " 2.—25 papers Biennials and Perennials..... 1 00
 " 3.—55 papers Annuals, Biennials, and Perennials..... 2 00
 " 4.—10 very choice, such as Verbenas, Japan Pinks, Pinks, Carnations, Hollyhocks, &c..... 1 00
March 15, Sent free of postage.

GARDEN SEEDS.

I have now in store a full assortment of GARDEN, FIELD, and FLOWER SEEDS, among which will be found all the varieties of Beans, Beet, Cabbage, CARROT, (all American growth).

CORN—Extra Early Dwarf Sweet, Early Burlington, &c., Cucumber, Lettuce, Melons, Onion, Parsnip.

PEAS—Princess, Lord Raglan, Epps Monarch, Champion of Scotland, Dwarf Green Marrow, Daniel O'Rourke, Competitor, Champion of England, all fine varieties.

TOMATOES—Fejee Island, very solid and extra fine, and all other varieties.

TURNIP—American growth and of extra quality. Radish, Asparagus, Spinach, Squash, Salsify, Rhubarb, Rape, Parsley, Artichoke, Broccoli, Cauliflower, Celery, Cress, Corn Salad, Leek, Endive, Kale, Chervil, Collards or Colswort, Brussels Sprouts, Okra, Nasturtium, Mustard, Egg Plant, Pumpkin, Pepper, Scorpion, Mushroom, Herbs, &c.

TREE AND SHRUB SEEDS of all kinds.
FRUIT SEEDS—Apple, Pear, Quince, Apricot, Blackberry, Cherry, Currant, Gooseberry, Peach, Grape, Nectarine, Raspberry, Strawberry, &c.

BIRD SEEDS—Canary, Hemp, Rape, and Millet.

BEEBEE—Honey and Yellow Locust, Buckthorn, Osage Orange.

PLANTS—Ash Leaf Kidney, Early June, Early Dike-man, Peach Blow, Prince Albert, and all other good varieties. CLOVERS—White Dutch, Lucern, Red, Alsike, Scarlet, &c. GRASSES—Red Top, Timothy, Creeping Bent, Tall Oat, Green Grass (best for lawns), Orchard, Ray, Fowl Meadow, Kentucky Blue, Sweet Vernal, Hungarian, Sainfoin, Fescue, Foxtail, Fine Fescue, Lawn, &c.

SPRING WHEAT—Pea, Black Sea, Golden Drop, SPRING RYE, SPRING VETCHES, SEED BARLEY, SEED OATS, Scotch and American, extra heavy and clean. FRUIT, ORNAMENTAL TREES, SHRUBS, and EVERGREENS, and all kinds of plants furnished to order, carefully packed, from the best nurseries and conservatories in the United States.

I take especial care to see that all my seeds are fresh, and well cleaned, and the very best of the kind, which can be obtained from reliable parties at home and abroad. Orders by mail attended to promptly. SEND FOR A CATALOGUE.

R. L. ALLEN, 189 & 191 Water-st., New-York.

Superior Vegetable and Flower Seeds by Mail.

Our Catalogue of CHOICE and RARE Flower and Vegetable Seeds for 1861, with full description and directions for cultivation, is now ready, and will be forwarded to any address upon receipt of a postage stamp. It contains a list of FIFTY COLLECTIONS of FLOWER SEEDS, and SIXTEEN COLLECTIONS of VEGETABLE SEEDS by Mail. McELWAIN BROS., Springfield, Mass. Successors to ALLEN & McELWAIN.

BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may well be procured by any one making up a library. Those we esteem specially valuable, are marked with a *.]

American Bird Fancier.....	\$0 25
American Farmer's Encyclopedia.....	4 00
American Weeds and Useful Plants.....	1 50
Allen's (H. L.) American Farm Book.....	1 00
Allen's Diseases of Domestic Animals.....	75
Allen's (L. F.) Rural Architecture.....	1 25
Allen on the Culture of the Grape.....	1 00
American Architect.....	6 00
American Florist's Guide.....	75
Barry's Fruit Garden.....	1 25
Bement's (C. N.) Rabbit Fancier.....	25
Blake's Farmer at Home.....	1 25
Boussingault's (J. B.) Rural Economy.....	1 25
Bridgeman's Young Gardener's Assistant.....	1 50
Bridgeman's Kitchen Garden Instructor.....	60
Bridgeman's Florist's Guide.....	60
Bridgeman's Fruit Cultivator's Manual.....	60
Breck's (Joseph) Book of Flowers.....	1 00
Brandt's Age of Horses.....	50
Bement's Poultryer's Companion.....	1 25
Buist's American Flower Garden Directory.....	1 25
Buist's Family Kitchen Gardener.....	25
Central Park Guide.....	25
Chorlton's Grape-Grower's Guide.....	60
Cole's (S. W.) American Fruit Book.....	50
Dadd's (Geo. H.) Modern Horse Doctor.....	1 00
Dadd's (Geo. H.) American Cattle Doctor.....	1 00
Dana's (Geo. H.) Anatomy of the Horse.....	2 00
Dana's Muck Manual for Farmers.....	1 00
Domestic and Ornamental Poultry.....	1 00
Downing's Landscape Gardening.....	3 50
Eastwood on the Cranberry.....	50
Elliott's Western Fruit Book.....	1 25
Every Lady her own Flower Gardener.....	50
Every Man his own Lawyer.....	1 25
Farm Record, for 25 Gardeners' Assistants.....	3 00
Farmer's Practical Horse-Fancier.....	60
French's Farm Drainage.....	1 00
Fessenden's American Kitchen Gardener.....	25
Field's (Thomas W.) Pear Culture.....	1 00
Fish Culture.....	1 00
Flint (Charles L.) on Grasses.....	1 25
Fruits and Fruit Trees of America (Downing's).....	1 75
Gordon on Milk Cows.....	1 00
Hall's (Miss) American Cookery.....	1 00
Herbert's Hints to Horsekeepers.....	1 25
Jenning's Horse and his Diseases.....	1 25
Johnson on Manners.....	75
Langstroth on the Honey Bee.....	1 25
Liebig's Lectures on Chemistry.....	50
Leuchars' Hothouse.....	1 25
Linsley's (D.) Morn'gton Henry.....	1 00
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Milburn on the Cow and Dairy.....	50
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Nash's (J. A.) Progressive Farmer.....	60
Norton's Scientific Agriculture.....	60
Our Farm of Four Acres.....	cloth 50 cts., paper 25
Onion Culture.....	25
Olcott's Sorgho and Impure.....	1 00
Pardee on Strawberry Culture.....	60
Pedder's Farmer's Land Measurer.....	50
Quinby's Mysteries of Bee Keeping.....	1 00
Randall's Sheep Husbandry.....	1 25
Richardson on the Dog.....	25
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Rivers' Orchard Hoses.....	40
Rose Cultivator.....	25
Robin's Produce and Ready Reckoner.....	50
Shepherd's Own Book.....	2 00
Smith's Landscape Gardening.....	1 25
Spencer's Education of Children.....	1 00
Stephens' Book of the Farm.....	2 vols. 4 00
Stewart's (J. A.) South American.....	1 00
Stray Leaves from Book of Nature.....	1 00
Thomas (John J.) Farm Implements.....	1 00
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Tucker's Register Rural Affairs.....	25
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BUIST'S GARDEN MANUAL AND ALMANAC FOR 1861.

BUIST'S ALMANAC AND GARDEN MANUAL. BUIST'S GARDEN MANUAL AND ALMANAC. J. B. BUIST'S GARDEN AND GARDEN MANUAL. CONTAINS USEFUL HORTICULTURAL INFORMATION, THE CULTIVATION OF VEGETABLES, FRUITS, AND FLOWERS.

LISTS OF THE MOST DESIRABLE VARIETIES. MAILED ON THE RECEIPT OF A LETTER STAMP. R. BUIST & SON, SEED GROWERS AND NURSERYMEN, PHILADELPHIA.

To Onion Growers.

A neat pamphlet of 42 pages, containing the condensed but plain directions of *Seventeen practical Onion Growers*, residing in different parts of the country; and embracing full directions for every item of labor from selecting seed and preparing ground, to harvesting and marketing crop. Nowhere else can so full, complete, and useful information on this subject be found. Sent post-paid on receipt of 21 cents (or seven 3-cent stamps). Address PUBLISHER OF AMERICAN AGRICULTURIST.

Gardeners, Planters and Farmers Priced Catalogue for 1861

OF KITCHEN GARDEN SEEDS,

Just published; send for a copy. R. BUIST & SON, SEED GROWERS AND NURSERYMEN, PHILADELPHIA, Pa.

PROFITABLE Employment may be had by addressing (post-paid) R. SEARS, 181 William-st., N. Y.

HOMES FOR THE INDUSTRIOUS, IN THE Garden State of the West.

THE
ILLINOIS CENTRAL RAILROAD COMPANY
HAVE FOR SALE
1,200,000 ACRES OF RICH FARMING LANDS
In
TRACTS OF FORTY ACRES AND UPWARD,
On

LONG CREDIT AND AT LOW PRICES.

The attention of the enterprising and industrious portion of the community is directed to the following statements and liberal inducements offered them by the

ILLINOIS CENTRAL RAILROAD COMPANY, which, as they will perceive, will enable them, by proper energy, perseverance, and industry, to provide comfortable homes for themselves and families, with, comparatively speaking, very little capital.

I. LANDS OF ILLINOIS.

No State in the Valley of the Mississippi offers so great an inducement to the settler as the State of Illinois. There is no portion of the world where all the conditions of climate and soil so admirably combine to produce those two great staples, CORN and WHEAT, as the Prairies of Illinois.

II. EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads, and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

III. RAILROAD SYSTEM OF ILLINOIS.

Over \$100,000,000 of private capital have been expended on the railroad system of Illinois. Inasmuch as part of the income from several of these works, with a valuable public fund in lands, go to diminish the State Expenses, the TAXES ARE LIGHT, and must, consequently, every day decrease.

IV. THE STATE DEBT.

The State Debt is only \$10,105,398 14, and, within the last three years, has been reduced \$2,959,746 80; and we may reasonably expect that in ten years it will become extinct.

V. PRESENT POPULATION.

The State is rapidly filling up with population; 668,026 persons having been added since 1850, making the present population 1,719,496—a ratio of 102 per cent in ten years.

VI. AGRICULTURAL PRODUCTS.

The Agricultural Products of Illinois are greater than those of any other State. The Products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 of bushels, while the corn crop yields not less than 140,000,000 bushels.

VII. FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep, rich loam, the fertility of which is unsurpassed by any on the globe.

VIII. TO ACTUAL CULTIVATORS.

Since 1854, the Company have sold 1,300,000 acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed through these lands at an expense of \$30,000,000. In 1850, the population of the forty-nine counties through which it passes was only 335,598, since which 479,293 have been added, making the whole population 814,891—a gain of 143 per cent.

IX. EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tons of freight, including 8,600,000 bushels of grain and 250,000 barrels of flour, were forwarded over the line last year.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from \$6 to \$25 per acre, according to location, quality, &c. First-class farming lands sell for about \$10 or \$12 per acre; and the relative expense of subduing prairie land as compared with wood land is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

ONE YEAR'S INTEREST IN ADVANCE

at six per cent per annum, and six interest notes at six per cent, payable respectively in one, two, three, four, five, and six years from date of sale; and four notes for principal, payable in four, five, six, and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated each and every year, for five years from the date of sale, so that at the end of five years one-half shall be fenced and under cultivation.

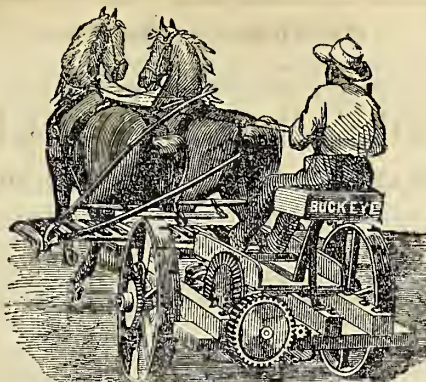
TWENTY PER CENT WILL BE DEDUCTED

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars.

Pamphlets descriptive of the lands, soil, climate, productions, prices, and terms of payment, can be had on application to

J. W. FOSTER, LAND COMMISSIONER,
ILLINOIS CENTRAL RAILROAD,
Chicago, Illinois.

For the names of the Towns, Villages, and Cities situated upon the Illinois Central Railroad see pages 188, 189, 190, Appleton's Railway Guide.



Buckeye Premium Mower for 1861.

THE ONLY MACHINE WHICH COMBINES ALL THE REQUISITES OF A PERFECT MOWER.

Farmers wishing to avoid disappointment, must send their orders EARLY IN THE SEASON. Circulars with full description, and testimonials forwarded by mail.

JOHN P. ADRIANCE,
Manufacturer and Proprietor, Sole Warehouse
in New-York, 165 Greenwich-st., near Courtlandt.

HOWARD'S NEW MOWER.

I wish thus early to call the attention of those intending to buy a MOWER, or a MOWER AND REAPER for the coming harvest, to my NEW MACHINE, and reduction of prices. I shall have for the coming harvest four different size Machines, and sell them as follows:

My One-Horse Mower, capable of cutting from five to six acres per day.....\$70 00
No. 2—Two-Horse Mower, will cut from eight to ten acres per day.....\$85 00
No. 1—Two-Horse Mower, will cut from twelve to fifteen acres per day.....\$100 00
Combined Mower and Reaper, twelve to fifteen acres per day.....\$130 00

They are so arranged that the entire Machine runs on wheels or rollers, and with a Patent Adjustable Lever and Roller, the driver has perfect control of the finger-bar in backing or raising it over obstructions, or in transporting the Machine from field to field.

They throw out and in gear by the driver without leaving his seat, and there is no necessity of backing up to give the knives motion before entering the grass, nor to drive fast to prevent clogging. They have no side draft—no bearing down of the pole to cause sore necks on your horses—no clogging or breaking down, and any boy can manage them.

Each Machine is warranted to be made of good material—to cut each and all kinds of grass without clogging—to have no side draft, and to be worked with less labor to man and team than any machine now offered for sale doing the same amount of work. Send for a Circular. Address

R. L. HOWARD, Buffalo, N. Y.

NORTH RIVER AGRICULTURAL WAREHOUSE AND SEED STORE, 60 Courtlandt-st., New-York. Constantly on hand a large assortment of AGRICULTURAL & HORTICULTURAL IMPLEMENTS. FIELD, FLOWER AND GARDEN SEEDS, from the most reliable growers in Europe and America. FRUIT AND ORNAMENTAL TREES from the best nurseries. GRIFFING, BROTHER & CO., 60 Courtlandt-st., New-York.

AGRICULTURAL AND HORTICULTURAL IMPLEMENTS.—A complete assortment of latest approved patterns and best made. Farming Implements, Machines, and Tools, consisting of everything required by the Farmer, Planter, and Gardener.

FERTILIZERS.—Best quality of Peruvian, American, and Manipulated GUANO, BONE DUST, coarse and fine sawings, Phosphate, Poudrette, Plaster, &c.

Field, Flower, Garden, Fruit and Shrub SEEDS. Trees, Plants, and Shrubs, all of most reliable quality, and furnished on the most reasonable terms. For sale by R. L. ALLEN, 189 & 191 Water-st., New-York.

JOHN MAYHER,

MANUFACTURER AND DEALER IN ALL KINDS OF AGRICULTURAL AND HORTICULTURAL IMPLEMENTS, MACHINERY, AND SEEDS,

No. 54 VESLEY-ST.,

Between Broadway and Greenwich-st., New-York.

AGRICULTURAL IMPLEMENTS.

A general assortment at wholesale prices. A. LONGETT, 34 Cliff-st., New-York.



Beardsley's HAY ELEVATOR,

OR

HORSE-POWER FORK,

Can be used by one or two horses. Price, including three pulleys and sixty feet of rope, \$12. See February Agriculturist. A liberal discount given to dealers. Sent by express every where.

SEND FOR A CIRCULAR.

LEVY A. BEARDSLEY,
South Edmeston,
Otsego Co., N. Y.

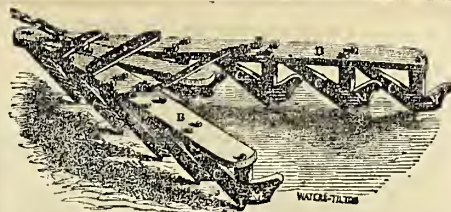
Chester County Pigs.

The undersigned continues to execute orders as heretofore, for his pure stock of the above, which will be carefully shipped to any point of the Union.

The selections are made only from pure bloods, and chiefly from premium animals, which have been uniformly successful at our local fairs. He refers to purchasers from him in all sections of the Union.

PASCHALL MORRIS, Agricultural and Seed Warehouse,
1120 Market-st., Philadelphia, Pa.

BERKSHIRE PIGS, Thorough bred and very fine. JOHN B. EDGAR, Railway, N. J.



Share's Patent Coulter Harrow.

TREDWELL & PELL, owners of Patent Rights for several States, and also Manufacturers. For price (which is reduced) and terms call or address at 45 Fulton-st., New-York.

Stump and Rock Pullers.

Hall's Hand Stump Pullers, Price.....\$60 00
Willis' Power do. small.....150 00
Do. do. largest.....225 00
Lyon's Hand Stump and Rock Pullers.....30 00
Bolles' Power on Wheels for Rocks.....230 00
This machine lifts the rocks and transports them where required. For sale by R. L. ALLEN, 189 & 191 Water-st., New-York.

COLDS! COUGHS!!

BROWN'S BRONCHIAL TROCHES
Cure Cough, Cold, Hoarseness, Influenza, any Irritation or Soreness of the Throat, Relieve the Hacking Cough in Consumption, Bronchitis, Asthma, and Catarrh. Clear and give strength to the voice of

TROCHES PUBLIC SPEAKERS, and SINGERS.

Few are aware of the importance of checking a Cough or "SLIGHT COLD" in its first stage; that which in the beginning would yield to a mild remedy, if neglected, soon attacks the Lungs. "Brown's Bronchial Troches" are a most valuable article, especially so at this season of the year, when Coughs, Colds, Bronchitis, Influenza, Hoarseness, and Sore Throat are so prevalent. The Troches give sure and almost immediate relief. Sold by all Druggists in the United States, at 25 cents a box.

"FERTILIZERS."

FREDK LANGMAN, Dealer in Guano, Bone Ash, &c., &c., No. 159 Water-st., New-York. "SOLE AGENT"

For A. LISTER & BRO'S, Tarrytown, N. Y. Superior Fertilizers, viz.: Superphosphate of Lime made from Raw Bones; fine, medium, and coarse ground bones, bone dust, &c., &c., suitable for all agricultural purposes. All the above fertilizers warranted pure, and of the very best quality. Testimonials can be seen at the store of F. L. as above, to whom all communications are to be addressed.

TO FARMERS. 80,000 BARRELS POUURETTE, made by the Lodi Manufacturing Co., for sale in lots to suit purchasers. This is the CHEAPEST FERTILIZER in market, \$3 worth will manure an acre of corn, will increase the crop from one third to one half, and will ripen the crop two weeks earlier. Price, over seven Barrels, \$1.50 per Barrel. A pamphlet, with satisfactory evidence and full particulars, will be sent gratis to any one sending address to General Agents for the United States. } GRIFFING BROTHER & CO., 60 Courtlandt-st., New-York.

GROUND BONES (warranted pure.)—The subscribers are now prepared to furnish the above valuable fertilizer by the barrel or ton. Order early. GRIFFING, BROTHER & CO., 60 Courtlandt-st., New-York City.

GUANO.

Swan Island.

ORGANIC, PHOSPHATIC AND AMMONIATE GUANO. The attention of Farmers is called to this valuable Guano, which contains over seventy per cent of ANIMAL BONE PHOSPHATE OF LIME, ORGANIC MATTER AND AMMONIA. A trial will prove it to be the best and cheapest concentrated fertilizer in use.

Price, (packed in barrels), only \$40 per ton. Imported and for sale by the SWAN ISLAND GUANO CO., 181 Water-street, New-York.

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Contents for April, 1861.

Agriculture—Poem	112
Apple Pie Melon and other Substitutes for Apples	119
Apples—Keeping Quality—Notes on Virginian	110
Apples—Reports on Best for different Localities	110
April—Suggestions—The Husbandman's Hopes	97
Ashes—Coal on Grass Land	117
Bee-Hives—Straw—A Word for	109
Bees—Apiary in April	101
Bees Sundry Notes on—Italian	109
Bees—Sugar—How to Raise	108
Bird Laws—Enforce the	199
Bleeding—To Stop	118
Boys' and Girls' Columns—Editor with his Young Readers—The Hour-Glass—What will You Plant?—Looking into the Horse's Mouth?—The Doctor's Fee—A Farmer I will Be, Original Song by Wm. B. Bradbury—Problems	2 Illust. 120-122
Boys—Bad Custom	105
CALENDAR OF OPERATIONS FOR THE MONTH	98
Celery—How to Raise	115
Corn—Early Germination of Seed	108
Corn Coverer—Cheap	108
Door-Catch—Self-Fastening	108
Draughting—Where Beneficial—How to Drain	2 Ill. 105
Farm Scenes—Spring—Illustration by Darley	112
Farm Work in April	98
Feather Beds	118
Feet—Frosted—Chilblains	118
Fences—Inclined Board	107
Flower Garden and Lawn in April	113
Flowers—Early—Desirable Sorts	113
Garden on the Housetop	2 Illustrations. 99
Garden—Kitchen and Fruit in April	114
Grapes—What Shall I Plant?	114
Green and Hot-Houses in April	101
Horses—Administering Medicine to	109
Humbugs—What they are Doing—Japanese Wheat—Editors Humbugged—Bogus Jewelry—Tree Peddlers—Rats	104
Inarching or Grafting by Approach	2 Illustrations. 117
Insects—Smoking out Lice	106
Lantern Blinks. XXVI—Diogenes Redivivus visits a Croaker	117
Lawn—Suggestions about the	116
Lime—Experience of Cultivators	104
Maine Correspondence	111
Market Review, Weather Notes, etc.	123
Meat—Cooking—Scientifically	119
Orchard and Nursery in April	98
Orchard—Notes for the	113
Plowing Greensward	107
Potatoes—Sweet—Starting the Plants	115
Premiums, Seeds, etc.—Giving—Objections Answered	101
Recipes—Oranges and Flavoring—Toast Pudding—Baked Dumplings—Best Lemon Pie—Sour Milk Cheese—Sweet Potato Coffee—To Clean Tripe	119
Rock and Stump Extractor—Lyon's	2 Illustrations. 108
Shrubs—A few Good	114
Soils—Mixing	108
Song—"A Farmer I Will Be," by W. B. Bradbury	121
Sorghum—Hints on its Culture	107
Spring—Ready for	111
Swine Pasture	106
Twistles—Canada	107
Tool House Wanted	106
Trees—Mice-Gnawed—To Save	Illustrated. 113
Trees—Shade—Hints on Choosing	113
Vegetation—Spontaneous	111
Whitewash for Indoors	118
Work for the Opening Season	106

INDEX TO "BASKET" ITEMS.

Advertisements—Endorsing	102
Agricultural Society—N. Y. State—Officers	102
Ashes on Sandy Soil	102
Barley Seed—Soaking	103
Bee-Hives—Glass Boxes on	103
Bees—Are Birds Destructive?—Prolific	103
Blackberries from Cuttings	103
Buying Implements, Plants, Seeds, etc.	124
Carrot Seed per Acre	102
Draining—Plowing for—Cost of	102
Flowers—Standing Cypress—Single Made Double—Petunias—Chincho Wistaria	103
Fruits—Preserving—Nyc's Method	103
Gift Enterprises in Kentucky	102
Grafting Wax—How Made	102
Grapes—Cuttings Received—Best Soil for	103
Grass Seed with Oats	102
Hedge Plants—Distance Apart	102
Hedges—Norway Spruce	103
Horses—Stabling with Cattle	103
Insect Powder—Coal Tar	102
Insects—Aphides—Borers—Turnip Fleas—Wire Worms	103
Lawn Grass	103
Lime on Seed Potatoes	102
Locust Seed—Planting	102
Madder—Cultivation of	102
Manure Cellars under Barns	102
Manure—Night Soil—Leached Ashes—Cider—Pomace	102
Microscope Premium Discontinued	102
Mushrooms—Detecting Poisonous	103
Potato Rot—Cure for	102
Raspberry—Allen	103
Reports—Agricultural—Securing	103
Seed Envelopes—Defective	102
Seeds—Results from One Package	103
Seeds—Send Now—Two Lists—Not Sent by Express	102
Sheep—Hemlock for—Saved from Dogs—Profitable	103
Smut—Cause and Preventive	103
Sorghum Value of	103
Steaming Food—Pipes under Ground	103
Sturtia and Wistaria	102
Swine—Salt for	103
Trees—Propagating Willows—Magnolia Hardy in Mo.—Retarding Buds—Renovating Peach—Branching Low—Apple, etc., from Cuttings	103
Trellises—Cast Iron	103
Wheat—Winter—Sowing in Spring	102
Whitewash—Out Door	103

Publisher's Notices.

For other Business Items, Special Notices in regard to Seeds, etc., see page 124, and also Basket Items, page 102.]

ONE MONTH MORE!

PREMIUMS WORTH WORKING FOR.

[As an experiment, we offered in last number some extraordinary Special Premiums for March. They are working well, but at the early date we go to press, we are not able to tell whether or not the end aimed at will be fully accomplished within the time specified. We shall therefore continue the special premiums to the end of April, with three additions.]

Here then is an opportunity for a large number of persons to secure very valuable and desirable articles in return for a little trouble. Look over the list below. [Within the past week, a Theological Student in this City has, at odd spells, raised a club large enough to obtain the Cyclopædia from our standing premiums, p. 122; and in four days a Teller in one of our leading city banks obtained a sewing machine for his wife, by circulating the *Agriculturist* among his friends, out of business hours. Large numbers of farmers and others have already secured the Great Dictionary, and other books. The Hydropult has also been largely taken.]

[The offers below are based upon current money (gold, Eastern gold, or 3-cent postage stamps.) Bank bills in States west of Indiana and south of Kentucky, Penn., and Delaware—are at a large discount here. Drafts on N. Y. City Banks are desirable.]

N. B.—Hereafter, until further notice, all sums of \$5 and upward, whether in gold, silver, bills, or stamps, can be sent to us through any of the offices of the *United States Express Company*, at our expense. From localities where this company has no station, send by mail.

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The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country. The *United States Express Company* have kindly agreed to deliver the book at very moderate rates to any part of the country where their lines extend. It can also go by mail to any place within 3000 miles for \$1 60 cents prepaid postage. Except to remote points, the expense will be much less by Express. (Persons living off from express lines can usually have it delivered to some person on the line, and send for it at convenience.)

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FOR THE

Farm, Garden, and Household.

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EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

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VOLUME XX—No. 5.

NEW-YORK, MAY, 1861.

NEW SERIES—No. 172.

Office at 41 Park-Row, (Times Buildings).
Contents, Terms, &c., on pages 153-60.

Entered according to act of Congress in the year 1861, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. **P. N. B.**—Every Journal is invited freely to copy any desirable articles, if each article or illustration copied, be duly accredited to the *American Agriculturist*.

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



May

• The careful hen

Calls all her chirping family around,
Fed and defended by the fearless cock,
Whose breast with ardor flames as on he walks,
Graceful, and crows defiance. In the pond
The finely checkered duck before her train
Rows garrulous. The stately-sailing swan
Gives out his snowy plumage to the gale;
And, arching proud his neck, with oary feet
Bears forward fierce, and guards his osier isle,
Protective of his young."—THOMSON.

We affect poultry in all its variety, from the lordly turkey to the cooing dove, in all its phases of life and death. They are charming with the feathers on, and not less so with the feathers off, undressed for life, but dressed for their last appearance at the festive board, where they go the way of all flesh. They are both ornamental and useful, valued friends in life, and in death leaving pleasing memories behind them. To the epicure, their last days are their best days, and the glory of the gobbler culminates, not in his shining plumage, and not in his aristocratic strut, but in his last appearance upon the table.

Our sanctum is not far from the poultry yard, and these lines are written amid the suggestive sounds of cackling hens. There is inspiration for the writer upon rural themes, in the crowing of cocks, the quacking of ducks, the gabble of geese, the cooing of doves, and all the varied

sounds of the farm yard. We love to call the whole feathered tribe around us, and watch them as they take their morning meal, and separate, going whither their instincts lead them—the turkeys to the fields and woods, the ducks and geese to the pond, and the hens and guinea fowls to the barn and garden. We admire the beautiful iridescence upon the plumage of the turkey, and the dove, the snowy whiteness of the ducks and geese, and the endless variety in the hues of the cocks and hens. We love to study their habits and mental traits, the chivalry of the cock, his pugnacity and pluck, his industry and self denial in providing for the feathered dames of his household; the fierce tenderness and devotion of the hen in sheltering and protecting her brood; the triumphant rapture of the geese as they lead their newly hatched goslings to the stream, where they are to find their daily food and their pleasure; the shyness of the turkey hen in stealing her nest and filling it with eggs, before one suspects she has laid; the endless bowings and congratulations of the ducks in every puddle, upon all occasions.

No first class residence in the country is complete without these feathered tribes. It adds as much to the charms of the sylvan lake, to see its mirror surface broken by water fowl, as it does to the extensive lawn, to behold here and there, grazing cows, and flocks of sheep. The beauty of an object is only perfect, when there is some seeming use for it. The cropped lawn is no longer a wide expanse of verdure. It is a pasture ground, and the grasses are ministering to animal wants. Their manifest enjoyment as they graze or lie down in the shade, adds to our own, as we look out upon the landscape. So our esthetic nature is pleased when the stream or pond is covered with fowls. Every man of taste enjoys the picture which Mason gives us of such an English residence:

"Hence did the lake, the islands, and the rock,
A living landscape spread; the feathered fleet,
Led by two mantling swans, at every creek
Now touched, and now unmoored; now on full sail,
With pennons spread, and oary feet, they plied
Their vagrant voyage; and now as if becalmed,
'Tween shore and shore at anchor seemed to sleep.
Around those shores the fowl that fear the stream
At random rove; hither hot Guinea sends
Her gadding troop; here midst his speckled dames,
The pigmy chanticleer of Bantam winds
His clarion; while, supreme in glittering state,
The peacock spreads his rainbow train, with eyes
Of sapphire bright, irradiate each with gold.
Meanwhile from every spray the ringdoves coo,
The linnets warble, captive none, but lured
By food to haunt the umbrage; all the glade
Is life, is music, liberty, and love."

It is well for gentlemen who have the means, and the leisure to indulge their tastes in these rural embellishments, to stock their grounds and lakes with rare birds and water fowls. The peacock and swan are aristocratic birds, and so little useful, except as ornaments, that they are out of place except in pleasure grounds. The

farmer, whose necessities require his daily toil, can hardly find place for them upon his premises.

But most of the fowls that have been domesticated, are more useful than ornamental, and contribute directly to the farmer's thrift. The labor expended upon them is directly profitable, and by those who are skilled in the business, the poultry yard is thought to pay much better than many other departments of husbandry.

If the farmer have a running stream or pond near the house, there is no good reason why he should not have geese and ducks. They will become objects of interest to the boys and girls, and will train them to habits of industry. They are full of life themselves, and they like to see life in all its variety. It will break up the dull round of plowing and hoeing, to feed dough and cracked corn to the chickens, to see them safely housed at night, to watch the clutches of turkeys as they come off, and see that they do not stray too far in the dewy grass in these May mornings. These cares of the young birds impress the heart of boyhood, and girlhood, as nothing else will. Who that has been trained in a farm house, does not remember the chilled chicken, wrapped in wool and put in a basket by the kitchen fire; the hen with broken leg and splints; the drooping gosling, that could not keep up with the flock; the sick duckling crawled away into the wall to die? There is a great deal of education in the poultry yard, and it is none the less valuable for our children because it helps pay our bills, instead of making out bills against us for schooling. Anything is to be prized that weds the heart of the child to the farm, that makes his affections take root in the soil. Work is thus beguiled of its drudgery, and the boy grows into industrious habits, without that conscious repugnance, which all children feel toward unattractive labor.

Most farmers keep fowls, but comparatively few have a poultry house, or any suitable accommodations for them. There is as much profit in housing them, and in feeding them well, as in caring for any other domestic animal. We have, for several years, kept accurate accounts of debt and credit with a flock of hens, and have found them to average about a dollar each, above the expense of feeding. Geese are not so profitable, for they are much more uncertain in pairing and in hatching. Turkeys, where they have a good range, often pay much better. They usually lay more eggs than they can cover, are quite sure in the hatching, and if kept within bounds for a few days, and out of wet grass, the young thrive as well as chickens. In whatever light we look at this bird, he stands at the head of the poultry yard. No sight can be grander around the farm house than the full grown cock, strutting among the beauties of his harem. Throughout the civilized world he is associated with festivity and good fellowship, and in all our borders, the name is almost synonymous with our only social festive anniversary.

Calendar of Operations for May, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.]

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The cultivator will be at no loss for steady employment during this month. The sowing of Spring grains is to be completed, the remaining stock of manure carted out, the ground prepared for hoed crops, and in most sections the planting of corn finished—in cold latitudes the bulk of the latter crop is often safely deferred until about June 1st. The forwardness of the season will, of course, be taken into account in getting in any crop. For corn, especially, it is essential that the ground be warm and dry enough to give a rapid start, and this is measurably true of other crops—a strong growth in the beginning is almost half the battle. Stagnation in business and depression in prices should not be permitted to discourage from sowing and planting a good breadth of grain. There must under any circumstances be a demand sufficient to make crops remunerative—all the more so if a large number of producers are withdrawn from active industry in consequence of disturbances in the nation.

Beans will often succeed on moderately fertile soils, where corn would not pay. They are always marketable, and are valuable for home use, and for feeding, especially to sheep. Prepare the ground as for corn, and plant white bush varieties in drills $2\frac{1}{2}$ feet apart, *m*, *l*. Drop the seed 3 to 4 inches apart.

Bees are very properly attracting increased attention. A moderate apiary can be easily attended to with little expense and trouble, and with great profit. Ample directions for operations this month, are given under "Apiary" on a subsequent page.

Broom Corn—Plant, *m*, *l*, in hills three feet apart each way, or in drills four feet distant. Thin to eight inches in the row, at the first hoeing. Favorable reports have been received from several who experimented with the dwarf variety last season. This may be drilled in rows three feet apart.

Buildings—A good coating of paint will save its cost many times in the preservation of all buildings. Apply it before hot weather comes on, if to be done this season. Remove all litter from unused stalls and the bottom of bays, before it becomes a harbor for rats and mice, which soon take possession when the premises are left undisturbed. See "Spurred Floors," p. 141.

Cabbages—Plant out from hot-beds, *ff*, *m*, in heavily manured mellow ground, if not already done for first crops. Read "How to Transplant," on page 148. Reserve enough plants to immediately replace any destroyed by cut worm or otherwise. Examine for worms and destroy them when found.

Calves—Mix oatmeal or shorts with skimmed milk for their feed as they grow older—giving but little at first, and gradually increasing the quantity. Allow them a little fine hay until the grass starts sufficiently to furnish a cud. Castration of the male is most safely performed at about a month old.

Carrots may still be sown, *ff*; last month was the better time. Read article on page 149.

Cattle—Continue to fodder until there is abundance of grass. They will relish a little hay at night even after turned to pasture. Keep up the flow of milk by feeding cows with wet bran, shorts, and roots if any remain, until the pastures are in full growth. Feed grain to working cattle according to the severity of their labors. Potatoes or other roots once or twice a week will keep up their appetite.

Cellars—Dampness or decaying matter in the cel-

lar will injure the furniture and impair the healthfulness of the rooms above. Give free ventilation, remove all offensive substances, and keep the sides and ceiling well whitewashed.

Clover—Sow, *f*, *m*, where it is wanted to enrich the soil by plowing it under while in blossom. Though quite late, it may yet catch if sown on Winter grain, *ff*.

Corn—Prepare the ground, *f*, *m*, and leave it until warm weather is established. The old rule is, to plant when oak leaves are as large as a mouse's ear. If heavy greensward be broken up this Spring, do not cross-plow, and be careful not to disturb the sods in harrowing and marking out the ground. The fermenting sods will afford warmth and nutriment to the growing shoots. Examine seed carefully and reject all injured by frost. See page 138. It is always useful to soak the seed, or at least wet it, and dry off with lime or plaster. We prefer wetting with a thin mixture of tar and water.

Dairying labors will increase this month. Provide abundant feed for the cows, a cool and neat room and convenient vessels for the milk, and conduct every operation, from milking to packing the butter, with scrupulous cleanliness. Be in no haste to buy a patent churn which is warranted to bring butter in four minutes or less—we know of no apparatus that will produce a good article in that time.

Cranberries may be planted any time this month. The Fall is a better season for grounds which are to be flooded. Secure fresh plants of the Bell variety, particularly for uplands. If cuttings be used, let them be five or six inches long, insert the middle in the soil, leaving the two ends projecting. Set them eighteen inches apart.

Draughting—Read the articles now in course of publication in the *Agriculturist*.

Fences—Keep all in repair, particularly boundary and road fences, and around pasture lots where young cattle are confined. If they once become unruly, an ordinary fence will not restrain them.

Flax culture promises to become more remunerative in future, from recent improvements in preparing the fiber. This crop and Hemp should be got in, *ff*, *m*.

Grain Fields—A top dressing of plaster will often prove beneficial. Guano, lime, or wood ashes, sown liberally before the seed is covered, will benefit heavy soils. Keep all stock from fields newly sown, and from Winter grain. Pull out weeds as soon as they are plainly visible among wheat, rye, or barley.

Grass Seed—Sow, *ff*, upon grain fields not already seeded, and on poor meadows. Use plenty of seed.

Hedge Rows thrive and spread by being let alone. Tear them out by the roots, not only along the fences, but by the roadsides to prevent further encroachment. If time can not be taken for this, turn a flock of sheep upon them to eat off the young sprouts as they appear, which will destroy some, and keep all in check.

Hoeing will be necessary in many sections before the close of the month. Use the horse-hoe or cultivator where practicable. If hand hoeing is required, use a light and sharp steel hoe, with which the labor can be performed better and with less fatigue than with a poor implement.

Horses—Keep them in good condition during Spring work, by generous feed and thorough grooming. An experienced horseman recommends a frequent allowance of *boiled* potatoes with grain, which the horses will soon learn to relish. When not in use they will fatten rapidly upon this feed. See "Galls on Horses," page 141.

Lime—Use according to suggestions given in recent previous numbers. See page 104 (April No.).

Lucerne is profitable in some locations. It requires deep soil with open subsoil, on which it thrives year after year without renewal, and furnishes valuable feed, particularly for soiling, as it can be cut several times in a season. Use 10 to 12 quarts per acre. Sow, *ff*, *m*.

Manures, particularly from the stable, are better applied to land in hoed crops, than to fields devoted to spring grain, which is apt to grow rank and

lodge on highly manured ground. Corn is a gross feeder, and should be well supplied with all that can be profitably used. The effects of heavy manuring the first hoed crops will be visible years after in the oats, winter grain, and grass which follow. Buy manure only as a last resort, after all available supplies on the farm are exhausted. Bone dust, and Peruvian guano, where a good article can be obtained, are the best articles in market, for general use.

Meadows—Allow no grazing on meadow lands in Spring. Keep in good condition by top-dressing with fine compost, before the grass has advanced much, or apply guano, ashes, or plaster, early this month. Keep the sluiceways open, which carry wash from the road or from the barn yard, and arrange them so as to spread the fertilizing matter over a wide space.

Oats—Sow, *ff*, if not already done.

Onions—Complete sowing, *ff*. Last month was a better period. For complete directions, consult, "Onion Culture," published at this office.

Peas for feeding out may be sown, *ff*. A low growing variety put in with oats, will be partially supported by the grain, and both will yield a good crop in a favorable season.

Plowing—Much labor is saved by properly laying out the lands at first. Long ridges, where practicable, save time in turning. With a ridge of 78 yards long it has been found that in 10 hours work, 5 hours and 11 minutes were occupied in the turnings, while in a ridge 274 yards long the time for turnings was only 1 hour 22 minutes. Keep the furrows straight, and direct the plowman to mend all "balks;" much after culture will thus be saved. For corn, subsoiling is preferable to turning up much of the crude soil underneath; it may often be done cheaply by following in each furrow with a light one-horse plow.

Potatoes—Plant, *ff*, if not already completed. Manuring heavily pays in this crop. Cutting the tubers into pieces containing one or two eyes, and allowing them to dry considerably before planting, is claimed to be a preventive of rot. Experiment with a small plot in this manner. Read "Potatoes Cheaply Grown for Market," page 139.

Poultry—Keep up their laying by liberal feed of grain, boiled potatoes, etc. Allow them to leave their yard an hour or two before sundown, when they will not do much injury by scratching in the garden, etc. Keep the mother of a brood confined in a portable coop, and allow the young chickens to roam in the garden and fruit yard where they will destroy many insects. Feed young poultry with cracked corn instead of meal, increasing the size as they grow older, until they can manage whole corn. Milk curds are very wholesome food for them. Set eggs, *ff*, *m*, for late chickens. Read articles on page 142.

Provisions—Pork in barrels in the cellar, hams in the smoke-house, and other provisions, need looking after occasionally. See that the brine is of sufficient strength, and covers the meat in barrels—rusty pork is a poor article of diet. Hams sowed in thin muslin bags, and whitewashed, will not be troubled by the fly. Keep them dry and cool. A good method to keep hams through the Summer, as we have proved, is to pack in barrels or bags with plenty of sweet, cut hay around them.

Pumpkins—Cheese pumpkins are about the best variety for cooking. Keep them separate from other vines of the same family. Plant in cornfields a liberal supply of the common sort for feeding stock.

Root Crops—Try a plot of mangel wurzels, or carrots this year, if they be not already sown. They will pay as a relish for stock when confined to dry hay.

Rye—Spring Rye may still be sown in many localities.

Sheep—Care for as directed last month. Wash, *m*, if the weather be sufficiently warm, and shear, *ll*, or early in June. Watch for the first symptoms of foot rot, and treat according to directions on p. 141.

Soiling—Sow rye and clover, *ff*, corn and millet, *m*, to *l*, for cutting and feeding green. This prac-

tice is gaining favor on small farms adjacent to cities, for which localities it is especially adapted.

Sorghum—The good returns received from cultivation of this plant and manufacturing syrup and sugar in the Western States, will undoubtedly stimulate more extended culture this year. Any difficulty in getting sugar from the South, will furnish additional reason for producing more sweetening at the North. Procure seed only from reliable sources—several inferior sorts have caused much disappointment. Prepare the ground as for corn, plant, *f*, *m*, and cultivate the same as corn. It is also a good crop for soiling, for which sow broadcast or in drills, *f*, *m*, *l*.

Swine—Give plenty of nourishing food to sows with their litters. The best pork is obtained from pigs kept fat from the commencement. If bran, shorts, or meal be given, mix with sour milk, or water, and allow it to ferment before feeding out. Cooked food is economical; a steaming apparatus should be attached to every establishment where many swine or other animals are kept for fattening. Read article, "Family Pig," page 142.

Tobacco—Keep the young plants free from weeds, and transplant, *m*, *l*, to deeply tilled and heavily manured soil. Set the plants in rows three, to three and a half feet apart, and two and a half, to three feet distant in the row.

Tools, Machines, etc.—Improve rainy days in the farm workshop, repairing all that may need it, washing and oiling harness, etc. Examine and decide on mowers, reapers, horse pitch-forks, etc., and procure before the season of their use comes on. See that all implements are stored in their places when out of use.

Weeds—Read "A Thousand at one Pull," p. 138.

Orchard and Nursery.

Although most of the deciduous trees should have been planted last month, there are doubtless some yet to be set; these need immediate attention. It is very desirable to move them before they commence the season's growth, and before dry weather. If the orchard has not been set out, better do it even now, than wait another year. More care will be required to keep the roots from exposure, and to preserve the buds from injury, but there need be little risk. The early growing kinds, such as cherries, pears, and peaches should be planted first.

In the Nursery, the hurry of business is not yet over, much of the planting being necessarily delayed while taking up, packing, and sending away early orders. Many of the stocks, having been kept in the cellar, are still in good planting condition. Besides, this is the evergreen planting month, and so largely are these ornamental trees now grown to supply the constantly increasing demand, the nurserymen are still pressed with business. As soon as the planting and transplanting is over, ground should be spaded, where it can not be plowed, and the plow or horse-hoe run through the nursery rows, adding manure where needed.

Apple Trees, from the backwardness of their growth, may be set out later than some others, but should be transplanted, *f*. Cut back a portion of last season's growth, before transplanting.

Budded Trees—If not done last month, cut away the growth above the buds inserted last season, unless they have failed to take. Leave a few inches of the main stem above the cut, to which the new growth may be tied, *l*, for support. Remove all suckers.

Evergreens will be putting forth their new growth this month, and being in full vigor, are better able to bear transplanting than at any other season. Make a good selection of hemlocks, firs, pines, and especially Norway Spruces, etc., for ornament and shelter, with arbor vitae for screens, and transplant, *m*, *l*. Keep the roots as much as possible from exposure to sun and wind; they suffer more than deciduous trees, owing probably to the resinous quality of the sap which hardens easily, and stops the circulation. Choose a wet day, take up plenty of earth with them,

and give sufficient room for the lateral roots in the new location.

Grafting may still be done, *f*, and even, *m*, if the cions were cut early in the season, or better still in the Fall or Winter. Rub off suckers from limbs grafted last season.

Head back the leading shoots of pear and apple trees, especially those inclined to a strong, upright growth. Peach trees are improved by cutting back one-third of the last season's growth, not only upon the top, but among the outer branches. Dwarf pears are also greatly benefited by a free heading back. Cut near a bud upon the side where the leading shoot is desired. Open spaces can thus be filled with branches, and a proper balance maintained.

Hoe between nursery rows and about the trunks of orchard and other trees.

Inarching—Perform this upon growth of last season, as illustrated on page 117, April *Agriculturist*. This method is particularly applicable for small trees and shrubs growing in pots.

Insects will breed rapidly this month unless kept in check. If caterpillar eggs have not been destroyed the nests will soon show themselves and should early be destroyed. A brush made for the purpose is a very convenient implement. Tie it upon a pole, twist it into the nest, and trample the whole under foot. Treat cherry and pear slugs to a solution of oil soap, or dust with lime. The hydropult is very effective for applying various solutions to the branches and foliage of trees. Wash trunks of trees affected by scale or bark louse, with a solution of potash and water, or the oil soap mixture, using 1 lb. whale oil soap to 6 lbs. water. Look for borers around the roots of apple, pear, and peach trees. One killed now, destroys many in embryo.

Layer shoots of last season's growth of grape vines, quince stools, and ornamental shrubs. This is a convenient and sure method of propagating many plants which do not root freely from cuttings.

Mulching newly planted trees with straw, sawdust, or tan bark, is beneficial, particularly in dry weather. Spread it half an inch thick or more, over the surface as far as the roots extend.

Orchards are too much cultivated for other crops than fruit, often with little manure; thus many fail while they should be in their prime. Moderate crops may be taken from them without injury, by manuring heavily and plowing at a distance from the roots if the trees are young, and by shallow culture in old orchards. If the soil is in good condition, the land may be seeded to grass: in this case, keep a clear space at least ten feet in diameter about the trunks, over which spread lime or ashes—a bushel of the latter or a peck of the former to each tree. An occasional top dressing of fine manure will also be beneficial.

Peaches, apricots, and other stone fruits may still be set out, *f*, but should have been transplanted last month.

Pears may also be transplanted, *f*, if neglected until now. Form them to a compact head by cutting back a portion of last season's growth; this will also induce the tree to throw out fruit spurs. It is injurious to these or other trees to allow fruit to mature the first season after resetting; all the vigor is needed to recover from the effects of disturbing and wounding the roots, change of soil, etc.

Plow or use the cultivator frequently between nursery rows, and little hoeing will be needed. Use short whiffletrees, and pad the ends to prevent barking the trees.

Plums—Set out, *f*, if not already done. Cut out and burn all black knot excrescences. Dust the trees several times with air slaked lime, just as they are passing out of bloom, to drive away the curculio. It may be easily applied from a small bag of thin muslin tied to a pole, and shaken about among the limbs. This method has proved successful in some cases. Occasional showerings with solution of whale-oil soap are also recommended. Repeat the process twice a week until the plums are half grown. Let poultry have free access to the plum yard—they will turn the insects to profit. In planting a plum orchard it is well to arrange it for a

poultry yard—very few insects of any kind can burrow into, or escape from the ground without attracting the sharp eye and ready bill of the chickens.

Pruning—Defer this work until June or July, except to remove decayed branches, or cut back last season's growth with a sharp knife.

Seeds and Seed Beds—Unless completed, as should have been done last month, plant seeds and pits, *f*. Stir the ground between rows of last year's seedlings, but do not disturb the soil in the row, as pits which did not grow last season may now be sending up shoots. Shade evergreens from the hot sun, and water occasionally.

Stocks of apple, pear, plum, cherry, quince, etc., also of shrubs and ornamental plants, with cuttings of grapes and other vines, should all be put in, *f*, if not set last month.

Stools, that is, trees and shrubs kept to propagate from by layers, should now be spaded about, and the outer branches laid down, removing those which were layered last season, and are now rooted. With many shrubs this is the best method of increasing the stock. Quinces are now largely propagated in this manner. The upright growth should be frequently cut back, to induce suckers.

Weeds will soon make their appearance, and must be kept in check with plows, cultivators, horse and hand hoes.

Weeping trees are largely inquired for of late. They are mainly propagated by grafting the weeping variety upon stocks of the ordinary sort. Graft, *f*.

Kitchen and Fruit Garden.

If the directions of last month were followed, most of the preparatory work of draining, manuring, and trenching, is finished, many seeds have been sown, and some vegetables already show their young growth. In the limited space usually devoted to vegetables for home use, it is easy by a little extra care in protecting tender plants, as beans, melons, cucumbers, etc., to secure their ripening from one to two or more weeks earlier than their ordinary season. A board resting upon bricks, laid over the row, will keep off pretty severe frost. Hand glasses, are convenient and more effectual. A pane of glass on four bricks answers a good purpose.

When rain has fallen after seeds have been sown, and the surface has dried rapidly, it will facilitate the appearance of the tender shoots, to gently loosen the crust above them, with care not to injure the growing plants. A loose surface is most favorable to growth under all circumstances, and frequent light hoeings will prove beneficial in destroying weeds, and admitting air to the roots of the plants.

The general appearance of a vegetable garden will be greatly improved by regular arrangement of walks, which should be laid out by a line. Much space is wasted by cutting the grounds into small beds; long rows across the garden are every way preferable. As far as practicable, arrange the various divisions so that two or three successive crops can be taken from the same plot, thus; turnips after early peas; late cabbages to follow early potatoes, and radishes and lettuce to be scattered among the hills of melons and other vines, etc.

Asparagus—Cut every shoot as it rises to sufficient height for the table, by which means the season will be much prolonged. Be careful in cutting not to injure the young shoots beneath the surface.

Beans—Bush varieties make a neat bordering along main walks: plant, *m*, *l*, put in seed with the eyes downward, and cover lightly. Mohawk, China and Valentine are early, the Union, Rob Roy, Marrowfat, Large White Kidney, and Refugee are later; the last named is considered superior for planting late for pickles, and for salting for Winter use. The Lima stands first among pole beans. A trellis of stakes and wire seven feet high, is preferable to poles. Set stakes or poles if used, before planting the hills, which should be raised an inch or two above the surrounding surface.

Beets for early use should now be up. They may still be sown, *f*. Sow for winter use, *l*, on deep, mellow soil, in shallow drills, eighteen inches apart,

Blackberries—It is somewhat late for transplanting in this latitude, yet with care they may be made to live. Cut down the cane to within six inches of the roots before transplanting. Stake up old canes or train them to trellises.

Borecole and Broccoli—Sow, *f, m*, as directed last month. Transplant from hot-bed, *f, m*.

Cabbage and Cauliflower—Sow, *f, m*, for late use, in rich mellow ground. Plant out, *f, m*, any remaining in hot-beds or cold frames. A coop of young chickens near the cabbage patch is a better protection from the garden flea and other insects, than the applications of soot, ashes, etc., often recommended. It may be necessary to examine about the roots for the cut worm. Hoe former plantings frequently, in the morning when the dew is on.

Carrots and Parsneps for late use may still be planted, *f*—last month was the appropriate season.

Celery—Sow, *f, m*, for late use, according to directions given last month, page 115, which see.

Cistern—For large gardens, a capacious cistern to be filled from the roofs of adjacent buildings, is a great convenience. During drouth, a hose from a hydrant or garden engine may be introduced, and a thorough watering be given with little trouble.

Cold Frames—Remove any remaining plants, *f, m*, and store the frames for another season. An occasional coat of paint and care in handling, will preserve them many years.

Corn—Plant small plots of sweet varieties, *f, m, l*, at intervals of a week or ten days, to ripen for succession. For garden culture, where the ground is well enriched, it will succeed in drills $2\frac{1}{2}$ feet apart, the stalks standing eight inches distant in the row.

Cucumbers—Transplant those started in the house as directed last month, *f, m*. Plant seeds, *f, m*, for Summer use, and, *l*, for pickling. Sprinkling with a solution of hen manure will aid in keeping off insects, and will forward the growth of the plants. Our practice in addition to this, is to make large hills and put in, at intervals of a few days, several rows of seed around the first planting, to attract insects which may escape other preventives. Superfluous plants are removed when the danger is over.

Currants—Plant, *f*, if not already completed. It is better done before the growth has started. Drench freely with soap suds to repel aphides and other insects. Keep the surface around them loose and free from grass and weeds.

Drills for seeds are best made with a straight narrow edged board, drawn back and forth until the proper depth is reached. This method secures uniformity, and prevents lumps about the seed.

Egg Plants—Transplant from the hot-bed into ground well enriched with horse manure, when the weather is sufficiently warm and settled.

Fruit Trees—For a good selection of dwarf apples and pears, see page 145. The main fruit yard should be separate from the kitchen garden.

Grapes—Set new vines, *f*—last month was preferable. Secure them with lead wire, bast, or soft cotton cord to stakes and trellises. Watch against insects, which may attack the young buds.

Herbs—Set any remaining roots, on borders, *f*.

Hoe frequently about early vegetables to destroy weeds, and keep the surface porous. Keep all the paths clean. A push hoe is a good implement for this purpose. The double coulter senfle hoe, made with an opening to pass on each side of rows of young plants, is an excellent tool.

Hot-Beds—Remove all plants from them, *f, m*, and put away sashes and frames for another season.

Insects will soon come swarming from their Winter retreats—many are already on the alert. Hen manure is offensive to many species. It should be mixed with plenty of soil before applying near seed. A solution of it sprinkled upon vines, etc., will be beneficial. A decoction of quassia chips is recommended by some gardeners. Covering with millinet frames, is almost a certain preventive.

Kohl Rabi—Sow, *f, m*, and cultivate like cabbage, except that the plants may be placed nearer together, say in rows two feet apart, and one foot distant in the row.

Lettuce—Transplant from hot-beds, *f*. Sow, *f*, and every two weeks for succession, among hills of vines, and other unoccupied corners. Thin cabbage varieties to nine or ten inches apart.

Manure—A supply for a large garden may be obtained by saving sink and chamber slops, and using the contents of the privy. Offensive substances are made inodorous by mixing with them plenty of muck, or by sprinkling liberally with sulphate of lime (plaster of Paris.) Frequent sprinkling with liquid manure in small quantities, is preferable to occasional soakings.

Melons—Plant, *m, l*, as directed for cucumbers.

Mushrooms—Make beds for Summer use, *f, m*.

Nasturtiums—Sow, *f, m*, where they will be shaded from the midday sun. They thrive best with plenty of moisture.

Okra—Sow, *f, m*, in very rich soil, in shallow drills, 3 feet apart, and thin to a foot distant in the row.

Onions may still be sown, *f*, for late use. This crop does well upon the same ground year after year, if the soil be kept rich. A liberal dressing of ashes is beneficial.

Peas—Sow, *f, m, l*, for a succession. The Champion of England variety is generally preferred for the main crop—it ripens late, and is therefore comparatively free from the weevil. For a convenient method of supporting peas, see page 135.

Peppers—Plant out from the hot-bed, *f, m*, eighteen inches apart, in rows two feet distant.

Potatoes—Plant, *f*, if not completed. Hoe former plantings, and top-dress with ashes and plaster.

Pumpkins—Plant, *f, m*, in hills eight feet apart, and at a distance from melons or squashes. Where different varieties of such vines are cultivated in the same enclosure, it is a good arrangement, to surround each plot with several rows of peas, which will partially protect them from mixing. Read "Impure Squash Seed," page 149.

Radishes—Continue to sow in vacant spaces, among vines, etc., *f, m, l*, for a succession.

Raspberries—Stake up and trim off, if not already done, as directed last month. Keep the ground enriched by forking in well decomposed manure.

Rhubarb—Set roots or sow seed, *f*, if not supplied. Hoe out all grass and weeds, and keep the surface loose. Manure heavily around the plants.

Sage, Savory, etc.—Sow, *f, m*. Transplant last year's sowing.

Salsify—Sow, *f, m*, on soil deeply worked, the same as for carrots.

Seeds—Test before sowing largely. Set out all remaining roots or plants intended to furnish seeds next year. Different varieties of the same species, as cabbages, turnips, etc., of various sorts, should be widely separated, to keep the seed pure.

Squashes—Plant, *f, m*, as directed for cucumbers and pumpkins.

Strawberries—Make new beds, *f, m*, if not done in April, which is the best month in the year for the work in this latitude. For choice varieties, see last month's Calendar. Culture in hills is gaining favor—see page 149. Keep the surface free from weeds; water, if the weather be dry. A liberal supply of ashes worked into the bed, will be beneficial. Mulch with saw-dust or cut straw, before blossoming commences, to keep the ground moist, and preserve the fruit from contact with the earth.

Sweet Potatoes—Plant out, *l*, or when the weather is settled warm, in deep, well pulverized soil, enriched with stable manure. Set plants from fifteen to eighteen inches apart, in high ridges, about three and a half feet from center to center, so low that the stems of the lower leaves will be covered; they will then sprout again, if cut off by frost or worms. If the plants are very low, set them obliquely, so that the roots will not be too far below the surface.

Tomatoes—Transplant from the hot-bed, *f, m*, to a well enriched border, with a southern exposure, if possible. A sandy soil is favorable. In setting the plants, place them a little deeper than they originally stood—they will throw out fibrous roots

from the stem. Set the plants four feet apart each way, and prepare a framework of thin strips to support the vines.

Transplanting—Read article on page 149.

Turnips—Hoe, weed, and thin those sown previously. Sow for Summer use, *f, m*. Next month, or the following, will be early enough for the Winter stock.

Weeds—Raise them from the ground on the hoe, invert them carefully, and repeat the operation as often as they appear.

Winter Cherry (Physalis)—Plant out, *f, m*, the same as tomatoes, setting them nearer together, say two, to two and a half feet distant. Seed may still be sown, *f, m*.

Flower Garden and Lawn.

If any of the old beds are to be re-arranged, and the shrubbery and perennial plants transplanted, let it be done at once. In transplanting, disturb the roots as little as possible, or they will show a weak bloom the first season. Some of the older plants may require dividing, having become too large.

The frames, pits, houses and conservatories can now be emptied of all but tender plants. Most of them will do best, turned from the pots into the open border. Intersperse them among the bulbs, annuals and late blooming perennials, where they will make an immediate show, and keep up a good succession.

Amaryllis, one of the finest Autumn blooming bulbs, should be set in a warm border, *f, m*.

Annuals—Sow, *f, m*, as noticed in the calendar of last month. It is essential that a good variety of fine blooming annuals should now be put in, to keep up a show of flowers late in the season, after most of the perennials have cast their blossoms. Those sown in the houses to forward their growth, may now be transplanted to the open ground.

Bedding plants are now in demand, especially the verbenas, petunias, salvias, and heliotropes. The dieffenia, lavatera, daisy, mignonette, etc., answer well for bedding. As a rule, it is better to set each variety by itself, than to mix them promiscuously.

Biennials and perennials should be arranged, *f*, as they are already beginning to grow. Do not transplant them too often. They are kept weak by transplanting nearly every Spring. Where it is desirable to increase the stock, remove a portion from one side, and leave the remainder undisturbed. See articles on page 146.

Box Edging—Unless already done, set, *f, m*. Clip old box, and replenish any weak places.

Bulbs—The earliest blooming are already fading, but there should still be a fine show of crown imperials, tulips, and a few hyacinths. Keep well supported, and stretch a muslin awning over the choicest, to lengthen the period of bloom, removing it at night and during cloudy weather. Set Autumn blooming varieties, as amaryllis, gladiolus, tuberose, lilies of various kinds, etc.

Carnations and Pinks from the forcing apartments may now be set out already in bloom. Tie to neat stakes. Divide roots and separate last year's layers to form new plants. They are desirable flowers, either for massing or planting singly.

Cypress Vine, Morning Glory, and other annual Climbers—Sow, *f, m*, and train upon strings around a central pole as shown on page 339, Vol. 17. Unsightly buildings, rough fences, etc., can be almost hidden beneath a mass of bloom, when covered with these climbers. Screens or lattice work may also have these vines running over them. Cypress vine seeds vegetate much more freely when soaked in tepid water for 12 hours before sowing.

Dahlias—Plant, *m, l*. Sprout them in boxes of earth, or by burying in a warm border previous to planting.

Dicentra Spectabilis—Plant and treat as the pæony, which it somewhat resembles in habit of growth. It is easily propagated by dividing the roots. Set, *f*, and a partial bloom may be expected the present season.

Evergreens—Plant from the 10th to the 20th, just

after the trees have begun to grow. In transplanting, keep the roots from the sun. Hollies, rhododendrons, and other broad leaved evergreens do better when removed with a ball of earth attached. To keep evergreens in a compact shrubby form, cut off the leaders and some of the side branches. If desired for stately trees, do not injure the leaders. Set hedges and screens of Norway Spruce, arbor vitae, hemlock, etc.

Frames and Pits—Remove any remaining plants, *f*, turning them from the pots into the flower borders and lawn beds.

Flowering Shrubs—Unless already planted, as advised last month, set out, *f*. Some of the early flowering sorts are already in bloom, or have cast their flowers, but the later kinds may still be planted. Intersperse them among the taller perennial flowers, and also around the house, as a connecting link between that and the larger trees.

Gladiolus—Set the bulbs, *f*, *m*, in a warm sunny place. Some of the newer varieties are very pretty.

Grass Edging—Keep well trimmed along the edges, using a line and sharp spade, or steel edging knife. Clip the grass evenly with the garden shears or grass hook. New turfing may also be laid, *f*, *m*.

Gravel Walks should be kept free from weeds, well covered with clean, coarse gravel, and frequently rolled with a heavy iron or stone roller.

Hedges—Complete setting deciduous, *f*, and evergreen, *m*. Clip any not attended to last month. Renew weak places in old hedges, by setting new plants and plashing or weaving others.

Honeysuckles, Wistarias, Ivy, Ampelopsis, Bignonias, Clematis and other perennial climbers—Set, *f*, if neglected until now. Arrange on trellises or lattice work. Old wood may be layered for an increase of stock. Sow seeds, *f*, *m*.

Hot-Beds—Transplant any thing remaining, *f*, *m*. If first set in small pots, and kept for a short time under the glass, and afterward set in the open ground without disturbing the roots, they suffer less in changing.

Insects—Combat them upon their first approach and it will be much easier to keep them in check.

Labels, Stakes, and Dahlia Poles should all be in readiness for use when needed. Mark the seeds when sown, by putting in small painted sticks with the names written upon them. It is a good plan to make a record on paper of each day's sowing, putting down the kinds of seeds and roots planted, with their exact positions.

Lawns will need mowing, *m*, *l*, and should be cut very evenly.

Mulching will be beneficial to newly planted trees and shrubs, as indicated under the orchard calendar.

Pruning—Although we oppose cutting off large branches at this season, yet the pruning knife may be used where necessary, mainly to cut back last year's growth, so as to form a more compact or bushy head. Shrubbery needs to be kept dense to look well. Evergreens should branch quite down to the ground. Their outer extremities may be cut back slightly, to make a dense growth.

Roses—Complete setting, *f*, and let the supply be large and varied, if space will permit. The common June or garden roses should yield to remountants, Teas, and Bourbons.

Tie up pillar and climbing sorts. Old wood may be layered. Remove layers of last season. Turn those in pots into the open border.

Shade Trees—Plant deciduous, *f*, unless already set, as directed last month, and evergreen trees, *m*, *l*.

Tile Edging—Put down, *f*, setting it even and perpendicular. Some modern sorts are quite pretty.

Trellises and Upright Frames—Put all of these in order for training the climbers.

Tuberose—Plant, *f*, any bulbs not in the ground.

Water plants and trees recently set out, if dry. Mulching before watering will be beneficial.

Weeds should not be allowed to get a start in these grounds. They do much more damage now, if allowed to grow, than later in the season.

Green and Hot-Houses.

These are rapidly yielding up their treasures to enrich the open borders and flower patches. In carrying them out, begin with the more hardy, and complete the transfer by the 10th, as little danger need be apprehended from frost in this latitude after that period. Roses, verbenas, and other bedding plants should be turned from their pots, but oranges, lemons, oleanders, camellias, and the like may be tastefully arranged about the grounds in the tubs or pots. Having carried them from the houses, throw open both doors and ventilators, except during rains. If painting be needed, do it now.

For propagating, and especially with collections of tropical species, it is better to let the plants remain in-doors, where a more perfect control over them can be had, shading when necessary and administering or withholding water as is desirable.

Bedding Plants—Set in open grounds as directed under Flower Garden. Peg down verbenas to give them a spreading habit.

Cactuses may be readily increased by cuttings put in, *f*, *m*. Examine for and destroy insects.

Camellias—These have completed their bloom and should now be in a fine growing state. Keep them in a thrifty condition, so that good sized healthy flower buds may be formed later in the season. Give them an airy situation, partially shielded from the sun; syringe often to keep down insects.

Cuttings of many plants both woody and succulent, may still be made. Protect them from the direct rays of the sun, with hand or bell glasses.

Fuchsias—Plant out in borders, *m*, or shift those intended to bloom in pots. Water freely. Increase the stock by putting in a good supply of cuttings. Beds or masses of fuchsias give much pleasure in the flower garden.

Grapes—If strongly forced, the clusters will now require thinning, or they may even be swelling preparatory to the stoning period. Keep well syringed, and pinch back or rub off growing shoots as needed. Later vines are only in bloom or just setting fruit. Do not give too much water when in bloom, and avoid throwing it on with much force. Guard well against mildew. See that borders are uncovered, well manured and forked over.

Inarching may be performed on woody plants that do not root readily by cuttings, such as oranges, lemons, camellias, etc.

Insects—Vigilance is needed now at the breeding period. A single miller destroyed before laying her eggs, is equivalent to killing dozens, and sometimes hundreds after hatching. Water, tobacco fumes, oil soap, and the like will keep them in check.

Japan and other Lilies—Plant out, *f*, *m*, and tie up flower stalks of those in bloom. Increase the stock by separating and potting the scales. Plant seeds for new varieties. As a class they are well worthy of more general cultivation.

Layering may still be done in the houses as directed under Orchard and Nursery.

Oranges, lemons, oleanders and myrtles—Carry to open ground and water frequently. Plant seeds for a stock, and graft those needing it.

Pelargoniums—A good stock of these should now be ready for bedding out. More cuttings may still be put in for Winter blooming plants.

Roses may all be removed to the open grounds, *f*, *m*. Increase the stock by cuttings, *f*. A good collection in bloom, will now be appreciated, and will give the borders a floral look at once.

Water freely, both before and after removing plants from the houses. Evening is the best time to apply it. Plants remaining in pots will require more water than if planted out.

Apiary in May.

BY M. QUINBY.

As soon as the bees become sufficiently numerous to cover the combs on a cool morning, the front side of the hive may be raised half an inch, for the Summer, unless they become weak; when the hive should be closed again. Until the combs are covered, worms may be found on the floor, and de-

stroyed, as mentioned last month. They are probably more injurious proportionably in small apiaries, than in large ones, and more care is required to destroy them. When the bees have reached to the bottom of the hive, the worms will creep into some covered place for protection, to spin their cocoons in which to undergo transformation to winged insects or moths. This propensity to hide away, is readily turned to their destruction. A trap is easily made from an eldersplit in halves, the pith scraped out, some notches cut crosswise, and then laid flat side down under the bees. The worms creep into these, and wind up their cocoons and feel perfectly secure; take them out once or twice a week, and destroy them.

If the weather be wet and cold, light colonies will not get a supply of honey from the flowers, and will yet need attention to prevent starving, especially during a long storm. Even good stocks that are in no danger of famine, may be advanced considerably by being fed a little at such times. . . . The danger of robbers is not past; a weak stock may be attacked any warm day before clover blossoms.

Boxes for surplus honey should not be put on while the bees work much on dandelions, if pure white combs are wanted. The yellow stain that they impart by running over them at such times, make them less salable in market. Should the weather be favorable, swarms may be expected in some places the last of the month. Get every thing in readiness seasonably. Hives must not be painted and used immediately. Bees seem to dislike the smell of new paint. When it can not be done beforehand, better leave the hive unpainted, or defer it until cold weather, and do it after the bees have filled the hive, when they will not be likely to leave. Very small apiaries, when the stocks are pretty strong, should have about two empty hives prepared for each old stock. When large ones are kept, an average of one and a half hives to a colony will do. Very likely there will be more swarms than this in a good season; yet in a large number, very many of the small swarms will be near enough together to be united. Three or four of the smallest, are none to many for a good colony.

Bees that swarm out naturally, are quite as apt to divide their numbers properly, as when swarms are made artificially, and when natural swarms can be cared for conveniently, it is as well to let them take their own course, particularly the first one from a hive. But when it is inconvenient to watch for, or take charge of them, artificial swarms may be made. The proper time for it is a few days only before the first swarm would issue. With the movable comb hive it is an easy matter. Begin by introducing smoke, or by sprinkling the bees with sugar water to keep them quiet. Have a new hive with frames the size of the old one, and the same number. Take out half of the combs with bees attached, and put them in the new one, putting half of the empty frames in place of them. Remove the old stand one or two feet to the right or left, and the new one the same distance the other side. The bees should be kept nearly equal by moving the one that is getting most, a little further from the old stand. In a day or two, you will know the queenless division by its having started queen-cells. To have them equal at the end of a few weeks, the queenless party should now have two thirds or more of the combs; being careful in making the exchange not to transfer the queen. If there be no room for a stand on each side of the old one, one stand is to be made somewhere else; it will then be necessary to look up the queen, and put her with the comb on which she is found, and what bees are with her, in the new hive, and set that on the old stand. Set the old hive with bees and combs in a new place—enough bees will leave it for the old stand, to make that a good swarm. If no sealed queen cells are found in the queenless part, in ten days, one should be introduced from another hive, or give them at least a comb with eggs or young larvæ. Persons without much experience in this should be cautious about operating before the old stock is sufficiently strong to spare a swarm; a want of success often results from this cause.



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Errors always Corrected.—If by misunderstanding, any error or mistake should by chance occur in forwarding any premium exactly as promised, all needed corrections will be gladly made.

Dwarf Broom Corn—Error.—Our printer placed Mr. Chandler at Sandy Spring, Pa., last month. It should be Md., as it appears in the present paper.

The Premium Dictionary.—In proof of what we have said of the value of Worcester's New Dictionary, we invite attention to the opinions of some of the leading literary men of the country which appear in the Publishers' advertisement on page 158.

First rate Premiums for All.—We invite the attention of all our readers to the very valuable premiums offered by the publisher, for a short time only. See last page (160). These offers must close next month. All the books and the hydropult are excellent, and worthy of the effort required to secure them. The "standing premiums" on page 154 can be secured at any time.

Draining Questions.—We are highly pleased at receiving a great number of queries on draining, as they indicate a largely increased interest in this important subject. It will be impossible to answer each question by itself, but the series of articles now in course of publication will include every point referred to by our various correspondents. The more questions asked the better, however, for they show *what* information is most needed and suggest points that might otherwise be overlooked.

Buying Implements, Trees, Seeds, Household Articles, etc.—We again commend to our readers the Purchasing agency of Mr. Lane, advertised in our columns. The convenience to the public of such an agency is obvious. The entire reliability of Mr. Lane, may be judged of by the strong recommendations he has from some of the ablest substantial business men of N. Y. city and elsewhere. One half of these men alone own property to the amount of at least ten millions of dollars. We are the more interested in this enterprise because it was started at our own suggestion, because it is a matter of convenience to our readers, and saves a world of business correspondence hitherto addressed to the editor of the *Agriculturist*, and because Mr. Lane was, in former years, one of our highly esteemed instructors.

To Persons Offering Free Seeds.—Frequent letters are received for publication, offering various seeds to those who will forward prepared envelopes. Most of these offers are prompted by generous impulses; a few take this method of getting the names of persons to whom they enclose a few seeds, perhaps worthless, and in the same letter an advertisement of some humbug. We can therefore only publish offers from *known* reliable persons; and even then it is seldom that any one has seed enough to supply a tenth of the calls that would be received. For example, a subscriber offered to distribute among his fellow subscribers, four quarts of good squash seed. After giving away all he had in small parcels, more than a thousand others applied. A good deal of trouble and scolding was the result.

Sorghum Sugar—Inquiry.—While most have succeeded in producing good syrup from the juice of the Sorghum, or Chinese Sugar Cane, few persons have obtained good sugar. There are many inquiries for information, and we would respectfully request all who have been successful in making good sugar to send us the *details*—giving the whole process, from the time and mode of cutting the cane, to the production of sugar.

Market Fair.—May 1st and 2d, the second Market Fair, under the direction of the Bedford Farmers' Club will be held at Katonah, Westchester Co., N. Y. Visitors are admitted free, and also all articles except live animals, upon which a small charge of 3 to 10 cents each is charged to cover expense of providing for them. This Fair is designed to bring together all those who wish to sell or buy farm or garden products, animals, etc., etc. We trust the enterprise will prove so successful as to warrant its continuance as a permanent institution, and the general introduction of this new feature in our country. For information address any one of the Committee, viz.: Messrs. John Jay, Jared H. Green, and Oliver Green; or the Superintendent, Mark Harris, Katonah, N. Y.

Winter-killing on Drained Land.—"Farmer," of Chillumthe, O., asks: "What good will drains do

when the ground is deeply frozen, but thaws three inches and is then soaked to that depth by rains, followed by many night freezings and day thawings."—The point is well taken, and it is perhaps too much to say that winter-killing *never* happens on thoroughly drained land. Yet such cases as are described by "Farmer" are rare. In most cases the ground breaks up when a thaw commences. Thawing and freezing twice or thrice will not destroy the roots, or we should have no winter crops. It is a succession of such changes on wet soils that breaks and tears the roots; and it is safe to say that the injury is tenfold less when the soil is kept dry, except in occasional instances like those named.

Giant Rye.—Giant Wheat.—O. M. Lord. The grain sent by you is sometimes called "Wild Goose Wheat." It is really a mammoth rye. The Giant Wheat distributed from this office, is not the same with the "Wild Goose Wheat," largely advertised in some quarters, but is a variety improved by careful selection for years in England. As heretofore stated, we can not vouch for its superiority when grown in this country, but it is of sufficient promise to warrant trial on a small scale.

The Japanese Wheat Humbug Still Alive.—We notice that the persons engaged in swindling the public by offering millet seed under the spurious name of "Japanese Wheat," are still operating. As late as April 13, a lot of the circulars came to our own County Post Office, addressed to various farmers, and among others one to our own name! Though our caution, published in the February *Agriculturist*, page 38, has been widely copied by other papers, yet the operators hope, by sending the circulars all over the country, to occasionally reach some foolish man who has "not read the papers." As the millet seed costs comparatively nothing, *if sent at all*, they will make money at it if one person in 50 or 75 of those addressed forward the dollar.

"Egyptian Corn" Humbug.—To J. A. Lee, Pike Co., Mo., and others. Two or more parties are distributing plausible handbills, advertising to send, for a dollar, a little parcel of seed that they call "Egyptian Corn," of which they tell wonderful stories. It is the Dourah corn, or what was a few years since called "Egyptian Wheat." It is not worth the dollar. Many persons, (including ourselves,) have tried it during half a dozen years past, and while some have thought it worth raising for chicken feed, and even for other animals, very few have grown it a second or third year. The special humbug in this case, is in the price asked, and the stories told of its origin, value, etc.

Dwarf Broom Corn Seed.—J. A. Voorhies, Middlesex Co., N. J. Box of seed received, for which please accept thanks.

White Rye.—We hear from several subscribers most excellent accounts of this variety, which was formerly in our premium seed distribution. E. R. Cady, Columbia Co., N. Y., who sowed about an acre, states that it yielded finely, gave grain several pounds heavier per bushel than the ordinary variety, and made a very superior quality of flour.

Sods under Potato Hills—Bugs.—Edmund Bacon, Worcester Co., Mass., writes that though he had good potatoes for three successive years, on land liberally manured, he lost many of them by rot. Last year he used no manure, but put an inverted sod under the seed in each hill. The result was, he had a fair crop of good mealy potatoes, and very little rot; while his neighbors who planted in the usual way, suffered from the rot as much as ever. He used seed saved from potatoes that rotted the previous year, and kept them in the same place.... The striped bugs have annually visited the vines in large numbers. Last year when the bugs began to appear, he dusted the vines with a mixture of 2 parts ashes and 1 part plaster, applied through a meal sieve. The bugs "seeded" at once.

Hubbard Squash, Pure.—E. P. Pike, Waldo Co., Me. The pure Hubbard squash is shaped much like the marrow, rather smaller in size, of a dark green color, very rough and hard shell, with dry, yellow meat, very sweet and fine, especially in winter.

Melons Rotting.—Wm. Platts, Scott Co., Iowa, says he had $\frac{1}{4}$ acre of Skillman's Netted Muskmelons last year which fruited well, but before quite ripe enough to gather, about one-third of them cracked open, molded, and became sour. They were planted in good season, on a rich sand loam, facing the southeast, and the vines appeared vigorous. He asks the cause and the remedy. We can not give it; we had almost the same result with three varieties, last year, scarcely a melon being fit to eat. We could attribute it to nothing but the unusual weather. Perhaps the long drouth prevented a sufficient development of roots, and a new rapid growth of these and of vines, when the autumn rains came, may have

checked the maturing of the fruit. The question is before the meeting.

Rhubarb, or Pie-Plant.—N. E. Mertrens, Searcy Co., Ark. The leaf stems of this plant are an admirable substitute for apples, for sauce and pies—especially in a new country where fruits are scarce. The stems are peeled, cut, cooked, and sweetened, just like sour apples. Ten or a dozen strong roots will supply a large family well during the season. They are cheap now, and can be carried almost any distance. They require little culture, though like most other plants they pay well for good soil and manure. The roots increase in size, and are propagated by cutting them into pieces, or "crowns," and planting out, 3 to 4 feet apart, as early as may be in Spring. All things considered, the Linnaeus Rhubarb is now deservedly the most popular variety. Rhubarb may be raised from seed, though more time is required, and you are not *certain* to get true or very good varieties from seed. Sow in a bed early in Spring, thin out to 4 inches, and transplant in October.

Early Turnips.—S. Peters, Burlington Co., Vt. One of the earliest, is the Strap-leaved Red-top, called also the Early Red-top Dutch, which is ready for the table in five or six weeks from planting. It may be sown at any season up to the middle of August, or so late as to give it two months to grow before frost. It is less solid and nutritious than the Swedes or Ruta-bagas, which require a longer season, and should be sown from the middle of May to the first or middle of June. For family use early turnips may be grown in vacant spots, between rows of corn and garden vegetables, and especially between hills of cucumbers and squashes, as they are soon out of the way of the extending vines. We always produce an abundant supply for the table without wasting any ground.

Shallot.—R. M. Shultz, Cooper Co., Mo. This is a species of onion, of strong flavor, and highly prized by some for seasoning, especially with beef steak. Is little used in this country as yet. The roots are small, oblong and irregular, growing in clusters as offsets from the root set out. Cultivate just like onion sets in Spring; or put the bulbs in the ground three inches deep, in October or November, five inches apart, in rows 10 inches apart, and cover with 3 or 4 inches of soil. In Spring draw away most of the earth, leaving the bulbs nearly bare, and afterwards simply keep out the weeds. When the tops are up, take up the roots, dry and put away for use.

Lawn Grass.—E. E. Welbon, Jefferson Co., Ill. The preference now is for a single variety of grass for the lawn. The perennial Italian Rye grass winter-killed with us. We shall now try the Kentucky Blue Grass.

Nasturtiums, or Indian Cress.—B. N. Mieux, Dorchester Co., Canada. The common nasturtium is worthy a place in your garden. Its flowers are beautiful and its green seed capsules make the finest pickles we have, thus combining beauty and utility. Sow on any good soil as early as it can be worked. They will run on a wall or trellis from six to a dozen feet. The dwarf varieties scarcely need a trellis. You can hardly fail to grow the nasturtium with as little trouble as peas are cultivated. The vines, leaves, and seed capsules taste somewhat like the common water cress.

Marls.—J. S. D. Emmet Co., Mich. There are various deposits called marls, though the term is usually applied to calcareous (lime shell) earths, containing a considerable portion of lime originally produced from the shells of water animals. Such marls are easily recognized by effervescing (or boiling) briskly, when a little acid, (hydrochloric, sulphuric, or nitric,) is dropped upon them. Many supposed marls prove to be only clay deposits; these are not affected by acids. The "green sand marl" of New-Jersey is a different substance, containing potash, phosphoric acid, and organic remains, etc. It is applied and mixed with poor soils in large quantities at any convenient season, and generally with excellent results, if used freely. Common marl is also applied at any time, spread broadcast, and mixed with the soil by plowing or harrowing, or both. Its action is more like that of lime than of plaster.

Raising Early Chickens in a Hot-bed.—A "New Subscriber" in Baltimore Co., Md., writes that he has raised two broods of fine early chickens, hatched Jan. 17th and 20th, by keeping them for a season under a glass protection, in an unused hot-bed—Not a bad idea. Very early Spring chickens command a high price in our large cities. A large hot-bed would offer room for a considerable number of chickens, which might be kept there until well started, and by gradual exposure be hardened off ready to take their place in the poultry yard by the time the glass is needed for plants. A sash costing \$3 or \$4 may thus annually serve the double purpose of raising early chickens, and then a supply of early plants of cabbage, lettuce, radishes, etc.

Texan Millet probably differs little from the Hungarian. A. L. Chase, Wayne Co., Mich., may safely sow one half bushel to the acre on the first of June.

Early Potatoes.—F. Carter, New-Haven Co., Conn. The Dykeman, a round white potato, with skin slightly shaded with purple, is considered one of the best early varieties.

Potatoes—Mercers and Buckeyes—Marl.—P. L. Turgand, Middlesex Co., N. J., asks which yields the best.—*Ans.*—The reports are that the Buckeyes yield by far the most; but they are inferior potatoes, so far as we have seen them, and the Mercers are every way preferable, wherever they will grow well. The Green Sand Marl of the region southeast of you, has usually proved of great value to the potato crop.

Late Gathering of Corn.—Joel H. Abbott, of Ill., in a letter dated March 6th, 1861, says: "The corn crop is not all gathered yet in this section of the country, but if the present fair weather continues it will greatly aid in this respect."—[It may be novel to Eastern readers, but we have seen farmers on some of the great corn growing prairies, moving off the shocks of corn grown the previous year to make way for planting the next crop.—*Ed.*]

More Good Corn.—The Green Bay (Wis.) Advocate, says that a field of Judge J. P. Arndt, of that city, yielded 120 bushels of good, sound, yellow corn, per acre. The field was planted on the 20th of May, in rows $2\frac{1}{2}$ feet apart, the hills 2 feet apart. (Rather close planting.)

Supporting Peas.—Wm. H. Ailes, Ottawa Co., Mich., recommends to plant peas in the following way: Stretch a line along one side of the plot to be planted. On this tie bits of cord about three feet apart, or a little more if the peas are of a tall variety. Directly under these, stick small pegs to mark the center of the hills; around these make circular trenches 4 inches deep, and 20 inches in diameter; drop the peas, and cover by making smaller trenches within the larger, 9 inches in diameter, drop the peas in this also, and cover. As the peas grow, they cling together by their tendrils, and need but a slight support in the centre of the hill to hold them up.

Cheese-Making Rules.—A correspondent of the Country Gentleman gives the following rules: 1st. Multiply the number of pounds of milk by 11; point off two figures for decimals, and the product is pounds and decimals of a pound of cheese as it comes from the press. *Example:* how many pounds of cheese will 475 lbs. of milk produce. *Answer.*—475 multiplied by 11 equals 5225 (or $52\frac{1}{4}$ lbs.).—2nd. For ascertaining the quantity of salt for cheese, multiply the number of pounds of milk by 3, and point off three places for decimals. The answer is in pounds and decimals of a pound. Or, if you divide the number of pounds of milk by 21, the quotient will be the number of ounces of salt to be used. [The above are only approximate results. Milk differs in its composition greatly; and some will obtain much more cheese than others from the same milk.—*Ed. Am. Agr.*]

New Method of Curing Cheese.—X. A. W., in the Dairy Farmer says that some dairymen treat their cheese as follows, and find that it works admirably: When the cheese comes from the press it is oiled and bandaged; after this, sweet whey is heated and used daily in rubbing the cheese; the whey must not be heated to a higher point than the hand can bear. He says that cheese treated in this way is not so apt to crack; while it presents a firmer and smoother rind when fit for market, than cheese treated with oil or whey butter.

Gapes in Chickens—Our Seeds.—Mrs. S. A. Ferguson, Boon Co., Mo., referring to the various cures recommended for gapes, says the best remedy is to kill all the poultry on a place once in two years or less, and substitute new and healthy supplies from other farms. She says she obtained the best radishes and beets, and the finest pinks, asters, and nasturtiums she ever saw, from seed received through our seed distribution of 1860.

To Prevent Hens Sitting.—M. L. T., Falmouth, Ky., recommends to keep the fowls in a coop three or four days without food, after which they will be too hungry to think of setting.

Tan Bark Manure.—A. Hunter, New-Plymouth. Spent tan bark, applied in its raw state, is of little value for manure. It serves as a good absorbent, or bedding in the yards or stalls. A Virginia correspondent experimented with it favorably, using two feet in thickness of tan bark, two inches lime, and so on, making a stack which he let remain two years, when it proved a good manure.

Muck with Offal.—Subscriber, Middlesex Co., Mass., will find two cords of muck can advantageously be incorporated with each cord of slaughter-house offal. The compost will then be quite powerful.

Bone Dust or Guano for Oats.—P. L. Turgand, Middlesex Co., N. J. On your sandy loam, the chances are about equal in the use of pure Peruvian guano, and bone sawdust, at the present price of the two fertilizers, though dry bone sawings at \$27 to \$30 per ton would probably pay better than guano at \$60 to \$65. Of guano apply 250 lbs. to 400 lbs., according to present richness of the soil, or about twice as much bone sawdust. Lester & Bros., Tarrytown, N. Y., furnish good bone-dust, and it can be obtained pure of most reliable agricultural stores.

To Avoid Pea Weevil.—W. W. W., advises to keep seed peas over, one year, that the bugs may all eat their way out and disappear before the peas are planted.

Simple Mole Trap.—Charles Ehemann traps moles with a deep earthen pot, which is placed in the ground, with the rim even with the lower edge of the burrow, and covered with straw. The entrance to the burrow on each side is stopped with a sod. The mole forces his way through, falls into the vessel, and is unable to crawl out. In this way he says he has caught three at a time.—A rather tedious process.

Polyphemus Moth.—J. C. Fletcher, Fulton Co., Pa. The moth you sent, (received alive,) was not the *Saturnia cynthia*, but the *Attaeus polyphemus*, quite a common moth, from a long bluish green caterpillar found on trees and bushes in August and September.

Destroying Green Fly.—A German gardener, who had used soap and water with indifferent success, found that, by boiling quassia chips and adding the decoction to the soap and water, the remedy was successful. Quassia is a wood remarkable for its intense bitterness and furnishes a decoction employed as an effectual fly poison. Would not some insects love quassia?

Wheat Insects.—A. Scott. There are many insects other than the Hessian Fly which injure wheat. The species you describe appears to be a kind of leaf-hopper. The true Hessian Fly is too well known, to admit any doubt of its destructive habits.

Protecting Corn from Cut Worms and Crows.—J. C. B., in the "Congregationalist" states that corn soaked forty eight hours in a solution of chloride of lime and copperas, one ounce of each for half a bushel of seed, seemed to forward its germination, and entirely protected it from the cut worms which were abundant in the field. A handful of ashes was dropped on each hill as soon as covered, and another applied at the first hoeing, and the crows did not molest it, though there were plenty in the neighborhood.

Sulphur for Potato Bugs.—Samuel Hunter, Sullivan Co., N. Y., writes that he has seen potato bugs entirely driven from the vines by sprinkling them with sulphur. It is doubtful whether this would pay on a large scale, even if it were successful.

Soot for Garden Fleas.—A. Felton, Clinton Co., Iowa, finds soot from the chimney or stove pipe, applied to cabbages when the dew is on, efficacious in keeping off insects. Also for driving the striped bug from cucumbers and squashes. [But it will not keep them away.—*Ed.*]

Preventing Sprouts around Fruit Trees.—Geo. N. Smith, Suffolk Co., N. Y. The only way to prevent these, is to continue to cut them away close to the roots. Good nursery trees grown from seeds, seldom give any trouble this way, but suckers from other trees are often strongly inclined to send up other suckers or sprouts.

Tobacco versus Rose Bugs.—"Abby" writes that a friend protected a large collection of rose bushes from rose bugs, by freely syringing them with tobacco tea.

Bast for Mats and Budding.—W., Franklin Co., Mo. Bark or bast from bass wood or linden trees in your latitude, will be nearly worthless, either for budding, or manufacturing into mats. Experiments in northern New-York show the bast of no strength, hence valueless. Only that from extreme northern climates is used. It was formerly obtained from St. Petersburg, Russia, now mostly from Archangel. The trees are felled and peeled when the bark runs readily in Spring, the bark then soaked, and stripped as fine as desired. The inner portions are the finest, strongest, and best every way.

Bleeding Vines.—T. P. Seely, Cass Co., Mich., alluding to the article on this topic in the March *Agriculturist*, says, he removed a large branch late in the Spring, and found it impossible to stop the bleeding, until he burned the cut surface with the flame of a lamp. In less than one minute it had ceased to bleed. Sealing with a hot iron answers the same purpose.

Tar for Bleeding Grape Vines.—Ezra Sayre, Shelby Co., Mo., writes that he stopped the flow of sap

from a wounded Isabella grape vine which was bleeding badly, by applying tar liberally and wrapping cotton cloth around the wound.

Chinese Wistaria.—Mrs. E. C. Angel, Marion Co., Iowa. The wistaria is propagated by cuttings or layers. It is a woody climber of great beauty.

The Allen Raspberry.—Mr. Meehan, editor of the Gardener's Monthly, says that a neighbor of his had a plot of this raspberry under 100 feet square, from which he sold over \$200 worth of fruit. The reports upon this variety differ greatly. Some speak of it in the highest terms, while others reject it entirely.

Barked Trees.—C. G. Siewers, Hamilton Co., O., recommends to surround the trunks of wounded trees with a lump of clay half an inch thick, worked soft to the consistence of putty. In this way he saved several fine dwarf pear trees. A large apple tree partially stripped or bark about two feet from the ground was successfully treated thus: Stakes were driven close around the tree, and kept in place by strips nailed on like hoops, and the space was filled with earth. The bark was rapidly replaced by new growth.

Osage Orange Hedges.—S., Peoria Co., Ill., alluding to the recommendation to set Osage Orange plants one foot apart for hedges, says they should be in double rows breaking joints, at that distance, or 6 to 8 inches apart in single rows.

Warming an Orchard.—M. M. Baldrige, Niagara Co., writes that a farmer in the town of Newstead, saved a large crop of apples from destruction by the disastrous June frost which killed most of the fruit in 1859, by keeping up large fires in his orchard during the night. He was apprehensive of frost, from the coldness of the preceding day, and being well supplied with cheap refuse wood, resorted to the above expedient. This might answer in a few cases where wood is abundant, but would cost too much with wood at \$4 to \$7 per cord, as is the case in many sections where apples are extensively raised.

Botanical Name of Cranberry.—S. Weishaupt, Knox Co., Tenn. The common running cranberry is the *Oxycoccus macrocarpus*.

Euphorbia Leathyris.—Lewis H. Wendel, Nantucket Co., Mass. The seeds and leaves show your plant to be the above, sometimes called Caper Spurge, or Mole tree, from the idea that it is offensive to moles.

Single Flowers made Double.—F. M. Dearborn, Iroquois Co., Ill. A change from single to double petals is brought about by high culture. Seeds from the most perfect flowers are saved and sown upon rich soil each season. It is usually several years before a fixed change is effected; and even then there is a tendency to return to the original form, unless under good culture.

Petunias.—C. Russell, writes that the petunia seed distributed from the *Agriculturist* office last season, produced the finest flowers he has seen, with all shades, from deep crimson to pure white, and that they were worth ten times the cost of the paper.

Coal Oil for Rats.—A correspondent of the Ohio Field Notes, says he smeared with coal oil some portions of a Mowing Machine stored in a shed; and as a consequence the rats, which had been very numerous previously, all vacated the premises.—A correspondent of the *American Agriculturist*, referring to the above, says he don't believe in it, for he had a gallon of the coal oil run out into his cellar, which fouled the air so much that it was almost impossible to live in the house for a week afterward; but the rats are quite as abundant as ever if not more so.

To Destroy Muskrats.—J. C. Boone, Kulpville. Feed with pieces of sweet apple containing strychnine.

Agricultural Reports—Patent Office Seeds.—"Subscriber," Barnstable Co., Mass. The "Reports" and seeds can be obtained through your Representative in Congress. (We have a few of the "Reports" for 1857, the latest yet published, for sale at 30 cents each, or 60 cents, if sent by mail. They probably cost the Government \$1.00 each. We bought them at the price asked.

Coffee Pea.—Kate E. Sockman, Ohio Co., Va. We know no other name than the above for the pea.

Corn Stalk Cutter.—D. M. M., Marion Co., Ind. The cutter and grinder used by W. in the article alluded to, was the "Keystone," advertised on page 378, December *Agriculturist*. It was the \$35 size.

Boots and Shoes are now being manufactured with a thick outer sole and a thin inner sole, both made of firm wood. Being a non-conducting material, the wooden soles are calculated to keep the feet warm and dry.

At least One Bushel More.

There is now every encouragement to cultivators, to increase the products of their fields to the last bushel, the present season, whether those products be wheat, corn, barley, oats, beans, peas, potatoes, carrots, turnips, orchard fruits, or garden vegetables. This does not necessarily imply the planting or sowing of more ground; though every acre that can possibly be tilled well, that is, so as to yield a fair profit, should be put under cultivation this year. The winter grains are, of course, already growing, yet the filling up of bare spots with spring varieties, the clearing out of obstructed drains or dead furrows, and the application of some kind of manure as a top-dressing, may materially increase the yield. For the crops yet to be put in, a thorough preparation of the ground, a selection of good seed, with the application of the last shovel of manure from the barn-yard, poultry yard, etc., will all tell in cash next Autumn. Nothing makes our severe labors in the field less irksome, than to feel that we are putting in a crop so well that it can scarcely fail to give good returns. The satisfaction will be still greater, if we have reasonable prospects of realizing good prices for the resulting crop.

Such prospects are now before the cultivators of this country. In the Market Review, on a subsequent page, reference will be made to the condition of the breadstuff markets. An active demand for wheat, flour, or corn, will tend to a greater consumption of other farm and garden products. It may suffice to say here, that owing to the unpropitious harvest throughout Great Britain last year, with but a moderate yield on the Continent of Europe, the demand upon this country for breadstuffs has thus far been very large, and is likely to continue so through the year. Not only must sufficient supplies be drawn from us to meet the deficiency until the next harvest, but that harvest itself is likely to be a small one, comparatively, owing to the fact that the prevailing rains last Autumn prevented the sowing of the usual breadth, while the lateness of the sowing, the poor quality of the seed, and the severity of the Winter, leave small hope of good crops to our trans-Atlantic neighbors.

Again, as we write, the sounds of martial music, and the gathering hosts of armed men that almost momentarily pass our window, betoken an impending war of no small magnitude. Of that war, its causes, and its aims, this is not the place to speak. So much is certain, that if continued, it will transfer a vast multitude from the producing to the consuming classes. As one result, those who are not called from their homes to the service of their country, will find more work upon their hands, which, with the increased demands upon their fields, will require greater skill and effort.

The foreign demand will alone greatly stimulate the market for agricultural products, and enhance prices, thus affording means for liquidating debts incurred for land, and for implements, and other liabilities, perhaps unwisely contracted in the past. Let, then, every cultivator of the soil take hold with increased energy and confidence, and spare no effort of hands and brain to secure at least "one bushel more," either by tilling better than ever before, or by increasing the area under cultivation, or by both of these means.

DRIVING MOLES FROM THE CORNFIELD.—Mr. G. writes to the *Agriculturist*, that in Indiana moles are troublesome in cornfields in the

Spring, and it often requires considerable replanting to repair their mischief. The remedy used is, to commence plowing immediately on the first appearance of their depredations. Some use what is called a "bull tongue," made by taking a heavy piece of scantling, mortising a hole through it, and putting in a "coulter" similar to one used for "breaking sod," so as to let it run ten or twelve inches deep, letting the scantling slide on the ground. This cuts across their underground pathways, and they will soon retreat from the field. The plowing is often commenced before the corn is up.

The Draught of Plows—A Trial.

Unquestionably the plow is the most important implement of agriculture, as now conducted. That it is to be supplanted, at no distant day, by other improved mechanical agencies for breaking up the earth's surface, we can hardly doubt; but now the plow lies at the base of all good tillage, and it is the implement with which is performed the bulk of the work for preparing the ground for all field crops. Upon the perfection of his plow mainly depends the success of a farmer. A plow ill fitted for breaking and turning the soil, or one requiring a needless expenditure of team power, is costly at any price, compared with one which does its work well with much less power. A plow that can be moved with a steady draught of say 300 lbs., may be worked all day by a team of given power; while another, requiring 400 lbs. steady draught, would keep the same team pulling at their utmost strength, worrying and fretting them, and rapidly exhausting their strength. It is perhaps safe to say, that the team which could just draw a 300 lb. plow easily, would last twice as long, that is, twice as many years, with the same amount of food, if kept on such a plow, as if driven before a plow of 400 lbs. draught. Or to put it in another form, if a man can with one style of plow do a third more work in a day—equivalent to a saving of 75 cts. or \$1, it is certainly bad economy to use an inferior implement. Doubtless it would be profitable to burn up half of the poor farm implements now in use, and buy better ones. It is important, then, for farmers to take into account the draught of a plow, as well as other items.

This matter was suggested by some experiments we witnessed near our residence, April 15, to test the relative draught of several plows. Those which we noted most carefully, were two "Eagle Plows No. 20," of cast iron; one "Eagle Plow No. 19½," of cast steel; and No. 2 of a new patent, called the "Cylinder Plow." A dynamometer was placed between the team and the plow, to measure the amount of draught required. Every precaution was taken to have the width and depth of furrow the same for each plow.

One trial was upon a stiff sod, with a span of horses. Eagle plow, No. 20, cast iron; furrow, 12 inches wide, and 6½ inches deep. Average draught shown by the dynamometer... 570 lbs.

Eagle plow No. 19½, a trifle smaller than No. 20, made of steel; furrow 12 by 6½ inches. Average draught..... 520 lbs.

Cylinder plow, No. 9, cast iron. Furrow 12 by 6½ inches. Average draught..... 410 lbs.

A trial was then made upon another farm, on a less compact soil—a sod not so tough as the above—and with a steady ox team. An Eagle plow, by another manufacturer, No. 20, cast iron, in use in the field, was tested with the dynamometer. Width of furrow 12½ inches,

depth 6½ inches. Average draught..... 420 lbs.

The same team was then attached to the Cylinder plow No. 2, about the same size as Eagle plow No. 20. Width of furrow 12½ inches; depth 6½ inches. Average draught... 305 lbs.

Here was certainly a marked difference in the draught required for two plows, worked under precisely the same circumstances, and doing the same amount of work equally well—a result which we should not have credited, had we not witnessed the experiments, and even assisted in directing them, for we have long been partial to the "Eagle plow." There are several new features in the Cylinder plow, which are claimed to be important, though we gave most attention to the draught, as much had been claimed for this. A rain storm prevented further experiments for the day. We think the new plow will supersede even the Eagle, if the manufacturers do not claim too much for it, and put the price too high. It is an Ohio patent, but arrangements are made to manufacture them in this City and elsewhere, we believe.

For the American Agriculturist.

A Cheap Paint.

About seven years ago, a Mr. Wheeler of this place, built a bridge for the town, which he painted with the following composition; water lime (hydraulic lime) mixed with skimmed milk to the consistence of common paint. It was put on with a short-handled whitewash brush; eight or ten quarts were mixed at a time, and 2 or 3 coats were applied; it can be shaded by addition of various coloring matters to suit the taste or fancy. The bridge was painted seven years ago. I pass it almost weekly, and I always supposed it was covered with lead paint, until told to the contrary.

This paint is adapted to coarse, rough, outdoor-work, and out buildings—which are covered with unplanned boards. There are a number of barns in this vicinity painted with this mixture; they have a rather neat appearance in contrast with those not painted. The cost is but little, the lime can be procured for \$6 to \$9 per barrel. [Often for \$1.25 to \$3.00.—Ed.] Those who have used it, speak well of it. Any one can put it on with a whitewash brush.

Madison Co., N. Y.

GEO. W. BAKER.

For the American Agriculturist.

High Manuring Pays.

In the Spring of 1859 I planted 3 acres and 35 rods of land with potatoes, applying 125 carman's loads of New-York stable manure per acre. The crop was remunerative, paying the cost of manure and labor. In September following, I sowed it with Michigan Blue Stem Wheat, applying 200 lbs. Peruvian guano per acre; in the Spring of 1860 sowed clover seed. In July, 1860, harvested the wheat; yield 117 bushels, or at the rate of 36½ bushels per acre.

This may not be considered by some as a large crop, but it is quite double the quantity that I formerly raised upon this farm, before adopting the plan of high manuring. The account with the last crop stands as follows:

Value of crop at \$1.60 per bushel.....	\$187 20
EXPENSES.	
600 lbs. Peruvian guano, at \$58 per ton.....	\$17 40
3½ bushels seed wheat, at \$1.60.....	5 60
Team, 3 days plowing and harrowing, \$2.25.....	6 75
Harvesting.....	5 25
Carting and stacking.....	2 50
Threshing, cleaning, and carting grain.....	11 70—\$49 20
Net gain.....	\$138 00

With the land left well seeded to clover.

Suffolk Co., N. Y.

GEO. R. UNDERHILL.

Draining—Why—Where—How.

(Continued from page 105.)

HOW.

Deep Open Ditches are sometimes the only practicable drains, as, for example, in new swampy land so wet that more substantial covered drains can not be put down until the bulk of the standing water is drawn off. They are also necessary in some localities, as on the Western prairies, where wood, stone, or tiles, can not be obtained for constructing covered drains. They are likewise the most feasible in the rice lands of the South, where the water is required for flooding, and where the cheapness of the land, and the uniformity of culture, renders of little account the waste of surface required. And we would advise their use in any locality where nothing better *will* be adopted. On very many fields a larger and better crop would be obtained from the remainder, if one-fourth or more of the surface were occupied by open ditches. But such drains are always objectionable on lands devoted to general culture. They waste space; they are in the way; their banks are the nurseries of foul weeds; and the expense of the constant clearing out they require, would ordinarily pay a large interest on the cost of covering them at first.

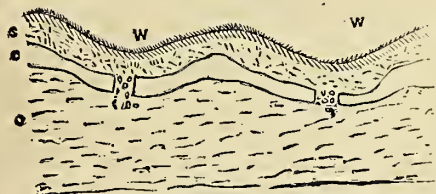


Fig. 7.

Well-Drains.—The want of an outlet is one of the greatest obstacles that many persons have to contend with; and as we happen to be just in a condition to sympathize with those so situated, we will speak on that topic first. Fig. 7, represents a section of ground where the upper layer, *s*, is a porous loam, under which is the impervious clay, *c*. At the depressions, *w, w*, the water collects from the adjacent higher lands, and is retained there. When the bed, *c*, is of great thickness, we know of no help, if it be impracticable to cut deep drains through the higher ground for an outlet. We have seen many such hollows on the Western prairies. In some instances it may pay to dig out a pond or small lake at the lowest point, large enough to hold the surplus water from the adjacent land, and run drains into this artificial receptacle.

But in many of these hollows or valleys the most of the water gradually settles away, which indicates a subterranean outlet. In fig. 7, is represented an artificial opening down through the clay into a porous soil, *a*. The coal or carboniferous strata underlying much of the prairie country, and the fact that water in wells often stands far below the surface, are indications that well-drains will be found practicable in many of the prairie hollows which are now deemed incurably wet. The feasibility of opening well-drains down into open subsoils is worthy of the attention, not only of prairie farmers, but of others who have no convenient outlet for drains. This point has not received the attention it deserves, from those who have written on the subject of drainage. Let it be noted that:

In a large proportion of the wells of the country, the water generally remains at ten and often forty to fifty

feet below the top, and however great the amount of surface draining the well receives, the water rapidly settles down to its usual level. Does not this plainly indicate that there is, between the surface of the water and the mouth of the well, a porous strata that carries off the water down to the point where it remains stationary? Is it not then reasonable to suppose that whenever a deep well is required, or the water stands permanently at a considerable depth below the surface, such wells, or others constructed for the purpose, may be used for outlets to drains?

Our own land lies upon a gentle slope, inclined sufficient to admit of good drainage, were it not for a rise of land a little below us, which would require heavy ditching to furnish an outlet. But well-drains, or what are here termed "cess-pools,"—that is, permanent openings though the layer of "hard-pan,"—save the necessity of other outlets. Under the cellar we have a dry well 20 feet deep, which carries all water to a bed of sand and gravel, so that the cellar itself is perfectly dry at all seasons. Last summer we dug a cess-pool 17 feet through an impervious compact bed of clay loam, literally a hard-pan, and then 8 feet further in a sandy layer. It was stoned up to the top, and the main outlets of over 300 feet of drains conducted into it. The result was, that a large flow of water was carried off, leaving the well or cess-pool dry. (During the winter several feet of clay and fine soil washed in from the new made drains, and choked up the outlet at the bottom, and at the time of this writing, the cess-pool is nearly full of water, though it is gradually sinking away. When dry enough, it will be cleaned out; and two or three further clearings will be required, before the loosened soils around the drains becomes so thoroughly settled as to prevent further washing in of earth.) We expect to drain several acres in the same manner during the present year. Our experience, so far, indicates that it will be better to make the cess-pools wider at the bottom, say 8 or 10 feet, and to take greater care in putting down the drains to prevent the washing in of soil. It may be remarked, that our cess-pool is covered with locust logs, overlaid with flat stones, 4 feet below the surface—a man-hole 2½ feet square enclosed with heavy plank being left for an entrance when necessary to clear out the soil washed in.

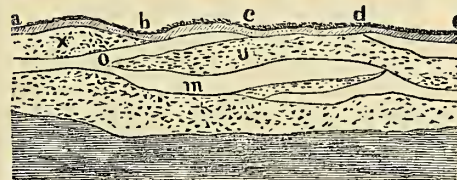


Fig. 3.

There is therefore little loss of ground. The soil is cultivated directly over the cess-pool.

In fig. 3, for example, a hollow, when to the right of *d*, might be drained by digging down through the clay into the porous soil beneath. And even at *b*, should the clay bed, *a*, chance to rise up at the left so as to interrupt the water, a well might also be sunk through the clay bed, *m*. The instances are so numerous where these well-drains are practicable, that no one should consign to a perpetual swamp-hole any rich bed of muck that might be his best soil if drained, until certain that no subterranean outlet is practicable.

We dwell thus long upon these various arrangements of the soil, and the results, not only as suggestive of practical methods of overcoming difficulties, but also with a hope of awakening an interest in the study of the character and

arrangement of the soils which underlie our cultivated fields. Wood, stone, and tile drains will occupy further articles on this subject.

Pipe Drains for House Slops.

"A Reader," in Oneida Co., N. Y., inquires as to the success of our pipe drain leading from the sink, etc., to the manure cellar at the barn, as described last August, Vol. XIX, p. 234. This drain is constructed of glazed earthen or stone-ware pipes, 5-inches inside diameter, in joints of 2 feet each, the small end of one fitting into a neck in the next piece. It extends from the house 213 feet, with a regular descent of one inch in three feet, and opens into the manure vault partly under the stables. There is a little descent in the ground, so that the lower end is 4½ feet below the surface, and the upper or house end about 18 inches below, with a three-necked syphon piece, to receive one pipe from the sink, another from a chamber water-closet, and a third from a box (with a coarse strainer) on the outside of the house, into which are poured all slops, washing water, and all fluids not proper to be put into a sink. Anything that will not pass through the strainer, is taken out and carried to the manure cistern.

After eleven months' trial, it works first rate, and we would not part with it for ten times its cost (which was \$45.72). The manure saved—the slops all going into the stable droppings and waste litter—doubtless pays the cost of the drain in a single year. It has not clogged, or emitted any stench; the syphon prevents the latter. The ease with which filthy water is got rid of, and the consequent neatness and healthfulness, are also greatly in its favor. Though so near the surface at the upper end, it has not been disturbed by freezing—doubtless owing to the fact that the last 30 feet is imbedded in sand and gravel which carries off all water, and prevents much heaving by frost. The ground around it must have congealed to the depth of 18 inches or more during the past Winter. We have full confidence in its durability. The soap suds on washing days dissolve off greasy matters that might otherwise collect in the internal surface. If this were not the case, we should occasionally pour in a strong solution of potash, to clean the pipe. This method of getting rid of house-slops, and at the same time turning them to good account as manure, we can recommend more strongly than ever. Those wishing more definite information can obtain it, by referring to the article of August last. [That or any other number for the past four years can always be procured post-paid for a dime each; or the bound volumes at \$1.50 each (\$2 if sent by mail). Unbound volumes sent post-paid, \$1.12 each.]

About Plaster of Paris.

"Young Farmer," of Perry County, Mo., asks several proper questions regarding plaster; and many others propose one or more queries. Let us talk a little on the subject, and first;

What is Plaster of Paris?—Put a piece of burned or unburned limestone, or marble, or chalk, in an earthen or glass vessel, with a little water, and pour in some sulphuric acid (called oil of vitriol). A milkiness will appear in the water, and after a time a white powder will settle to the bottom, if the water be not in large quantity. This powder is what is called "Plaster of Paris." It is composed of sulphuric acid and lime, and the proper name is "sulphate of lime." We wish

all our readers would always call it by this name—the name indicates what it is composed of. The same substance is often called *gypsum*. It is found in large quantities in the form of solid stones or rocks in very many places—sometimes of a pure white; sometimes colored by iron or other metallic salts; and sometimes it is beautifully crystallized almost like glass. In its solid white or crystallized form, it is often called *alabaster*, and is cut into vases and other ornamental work.

The solid sulphate of lime (plaster) contains considerable water. Thus, a piece of the crystal, or of the solid stone weighing 100 lbs., contains about 33 lbs. of lime, 46 lbs. of sulphuric acid, and 21 lbs. of water. Heat it strongly, and you expel the water, leaving only the sulphuric acid and lime. It is then called calcined plaster. Wet this and it will absorb the water again, and form a compact solid lump in a few minutes. It is thus used to take casts, and for plastering, etc. It was called plaster of Paris, because first used extensively in Paris for plastering. In Germany it is usually called gypsum.

The calcined plaster is not good to use on the soil, because when moistened, it forms hard masses. The ground stone, unburned, is the material employed as a fertilizer. The refuse plaster which has been wet and hardened in stereotype foundries, and in other manufactories where plaster is used for taking impressions, for casting images, etc., if ground up fine again, would doubtless be just as valuable for applying to land, as the ground stone unburned. The burning only drives off the water combined with the plaster which is taken up again when it is wet for use.

Sulphate of Lime as a Fertilizer.—For a long time past it has been found that the unburned stone ground to powder and applied to land, is often a very useful manure for many crops—and especially for clover. Twenty years ago, on the homestead farm, we were accustomed to go 40 miles for loads of plaster, during Winter, paying \$4 to \$6 per ton for it ground at the mill. It was sown broadcast on the wheat fields in the Spring, at the rate of 200 to 400 lbs. per acre, and also upon summer fallow, and on wheat soils in the Fall before the final harrowing. It was also spread broadcast on corn land, and harrowed in before planting. Sometimes seed corn was wet and rolled in plaster, and at other times a handful was sprinkled in each hill. In all these methods it was generally considered a paying application, though wheat averaged less than \$1 a bushel and corn less than 40 cents. It was frequently useful in all kinds of crops, but not uniformly so. The most paying application was on wheat land sown with clover seed in the Spring. A strip through a field sown with plaster, could be pointed out by the most casual observer by the better straw and grain; while the clover after harvest, indicated unmistakably the good effects of even 100 lbs. of plaster per acre. It was often tried upon meadows of timothy (Herds-grass) with good results frequently, but not uniformly so, and its use was ultimately confined mainly to wheat and clover, peas, corn, barley, and oats. On some fields, and in some years, it appeared to be less useful, than in other instances, though we do not recall an instance of its having failed to benefit clover. We had no soil so poor that we could not get a good growth of clover by using plaster, with a little yard manure sometimes; and when we could turn under a large growth of clover, the soil was reliable for one or more heavy crops of wheat or corn. A trial of it was

the only means of knowing on what soils it would be most beneficial.

What we have said of our own experience, is true in the case of thousands of farmers the country over; and the probability that it will be useful on any soil, is so strong, that we have uniformly advised all farmers to make at least one trial of it—particularly on clover and wheat. From 150 to 500 lbs. per acre may be tried, sowing it broadcast on the growing crop; or what may be just as well, and often better, sow it upon the plowed ground and harrow it in before seeding with the grain. Let it be tried upon grass land, on corn in the hill and broadcast, and on other crops; but never condemn it until it has been tried on clover.

How it benefits the crop, we need not discuss at length, for no one knows certainly. Some say one or both of its elements (sulphuric acid, or lime,) furnish special mineral food to the plant. We have favored the theory that it acts as an absorber of ammonia from the atmosphere, for the use of the plant. Its best effects with us were on a loam soil, already filled with lime, and abounding in limestone boulders and rocks. The lime could not be needed as a specific food in such cases. The water in the soil was abundantly saturated with lime, so much so that well and spring water rapidly produced lime incrustations in a teakettle. We repeat again, that theory is at fault, and a trial can only determine where it will be useful, and where not.

The plaster sold throughout the country, is generally pure enough for agricultural purposes, but not always so. The purest is a white *tasteless* powder. It is often of greyish color, owing to a very little admixture of iron, etc., but this does not materially lessen its value. It is also sometimes mixed with ground clay, stone, slate, etc. The following tests can be applied by any one.

1. Heat a handful to redness on a shovel, and let it cool. If it tastes strongly alkaline, like lime or potash, the presence of ground limestone is evident.
2. Take a little fresh from the barrel, and pour on it a few drops of sulphuric acid. If it effervesces (boils) there is ground limestone or marble present, the amount of impurity depends upon the amount of effervescence.

A Thousand Weeds at One Pull.

A single pigweed (*Chenopodium album*) if left undisturbed, will ripen more than 10,000 seeds, each capable of producing a successor. The seeds of the dock, sometimes number over 13,000 on a single plant, and the toad flax (*Linaria vulgaris*) leaves provision for more than 45,000 plants the following year. Burdock will multiply 21,000 fold, and the common stinging nettle (*Urtica dioica*) ripens 100,000 seeds. Scarcely a weed comes to maturity without scattering from 1,000 to 10,000 or more seeds, to injure crops and annoy the cultivator. This is not mere guess work, for painstaking investigators have actually counted and calculated the increase. A single pull at the commencement of the season, will destroy the whole progeny.

It should be remembered that seeds mature sufficiently to vegetate before they are perfectly dry; and again, that the seeds are ripe on one part of a plant while there are flowers on another. Hence it is not safe to wait till the flowers are gone, before pulling up weeds. Attack them *before* they blossom. Pull them up, or, if annuals, cut them off when quite green; and spread them in the sun to die. He who allows the weeds to grow in his potato field until

he harvests the crop, is quite sure to sow many millions of seeds for next year's trouble.

This much for annual and biennial weeds. Perennials, like the dock, daisy and thistle, should be treated with greater vigor. Cutting off the tops once will not suffice. Digging them up one by one, root and branch, is the only effectual remedy. Where they have invaded a whole field, plow up the land in the Fall, leaving many of the roots exposed to the action of the Winter's frost. Plow again in the Spring, taking pains to pick out and carry off every root that appears. Devote the soil to some hoed crop, and let it be repeatedly and thoroughly cultivated through the Summer, waging war upon the pests without any relenting. If they are cut off *below ground* several times in the Summer, they will grow weaker at every decapitation. The leaves being the lungs of plants, are essential to their breathing, and if this important operation be stopped, they must soon give up the ghost. Remember, every extermination of a weed this year, is the death of a thousand of the future crop.

Detecting Frozen Seed Corn.

John G. Stranahan, Macomb Co., Mich., writes that seed corn injured by freezing, may be detected by closely examining the part of the hull covering the germ of the kernel. When uninjured, the thin skin or hull is smooth over the whole kernel, but if injured by frost, it will be loosened from the kernel, particularly at the germ. It is important to take every precaution in this matter, as hundreds of acres fail every year from imperfection in the seed, much of which is undoubtedly caused by having been frosted before dry. In all cases it is better to sprout a little before planting, to test its goodness.

Experiment in Butter Making.

Mr. Zoller, of St. Lawrence Co., N. Y., at the request of the Committee of the State Agricultural Society, as we learn by their report, made an experiment as to the two much-discussed modes of making butter. He took 208 qts. of milk and strained into pans, set till the cream had thoroughly risen, and skimmed and churned cold, and obtained 17½ lbs. of butter, ready for packing. The next day he took the same quantity of milk, strained it into the churns, and let it stand till sour, but not loppered, then churned and treated in the same manner and obtained 19½ lbs. of butter. Analysis alone can show whether the increased quantity of the second is caused by a larger percentage of casein, or by more perfectly extracting the butter. If the *quality of the butter* is equally good, Mr. Zoller's method is worthy of the attention of our dairy men.

TO KEEP BUTTER SWEET.—D. Edson Smith, contributes to the *American Agriculturist* the following directions for preserving butter in good condition for any length of time. In May or June when butter is plenty, work it thoroughly two or three times, and add at the last working nearly one grain of saltpeter and a teaspoonful of pulverized loaf sugar to each pound of butter. Pack it tightly in stone jars to within two inches of the top, and fill the remaining space with strong brine. Cover the jars tightly, and bury them in the cellar bottom, where the butter will keep unhurt for a long time.

For the American Agriculturist.

More on the Carrot Question.

I have raised carrots for the last ten or twelve years, almost exclusively for my own feeding, and have every reason to consider them a profitable crop. I have always practiced giving extra feed to milch cows in Winter, and before using carrots, I commonly fed bran, shorts, or mill-feed, as we called it—being the offal of wheat left in flouring. This could formerly be bought for 5 to 8 cents per bushel weighing 20 lbs. But by improved machinery for grinding grain and separating the bran, the weight has been reduced to about 14 lbs., and the price has also been raised by the demand. This led me to adopt carrots as a substitute. You ask on page 43, (Feb. No.) "Will not a peck of ship feed mixed with cut straw be worth more than a peck of carrots?" This, in my opinion, depends upon its weight. If like some of the finer kinds, which weigh 20 to 30 lbs. per bushel, it may equal the carrots in value; though it will not produce as rich butter when fed to cows. In my own practice I am satisfied of the superiority of carrots over mill-feed.

As to the actual value of carrots, the following calculation may aid in forming an opinion. I find that corn which yields 100 bushels of ears to the acre, will make a fair sized stook to 25 hills, and this, when corn is planted $3\frac{1}{2}$ feet apart each way, will make 142 stooks to the acre. Each stook will make 3 large bundles of stalks, or 426 per acre. Four of these bundles, $1\frac{1}{2}$ at morning and night, and 1 at noon, with a peck of carrots per day will keep a cow better than hay. At the above rate, an acre of corn would yield fodder enough to last a cow 106 days. To keep her on hay an equal time, feeding 25 lbs. per day, would cost \$13.25, reckoning hay at the moderate cost of \$10 per ton.

Stalks are estimated here at about \$5 per acre; this deducted from \$13.25 would leave \$8.25 as the value of the $26\frac{1}{2}$ bushels of carrots fed in 106 days; or 31 cents per bushel. Many may think the stalks estimated at too low a figure, but I think the increased value of the butter produced by feeding with carrots, would balance the amount of under-estimate, if any.

For other stock than milch cows, I think carrots are worth 20 cents per bushel. When cattle or horses are confined to dry feed, a mess of 6 or 8 quarts of carrots twice a week would, I think, do them as much good as the same amount of dry feed; but when fed in large quantities, say a bushel a day to cattle, they do not pay as well—they appear to be better adapted to feeding with hay and grain, than to take the place of either.

ORLEANS CO.

Potatoes Cheaply Grown.

As usually cultivated, potatoes require a serious amount of heavy work in planting, hoeing, and harvesting. Anything which promises to lighten the labor of raising this indispensable crop, is worthy of consideration. The editor of the Illinois Farmer proposes an apparently feasible method, where the soil will admit. Corn stubble, or ground previously occupied by some other hoed crop, is chosen, a light furrow, about three inches deep, is struck, and the soil deepened seven to nine inches by the subsoil plow. A boy follows the subsoiler, and drops the seed potatoes, which are cut so as to leave one or two eyes to the piece, and laid one foot apart in the furrow. The next shallow furrow slice covers

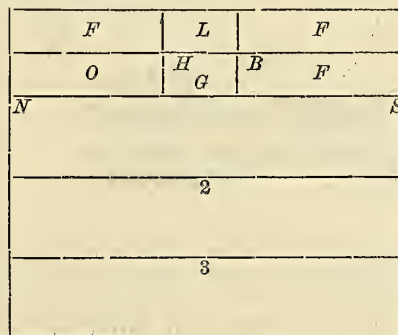
the potatoes, and the subsoiler is run through as before. At the third furrow, three feet from the first, another row of potatoes is dropped, to be covered up by the next furrow slice, and so on, until the field is finished. In this way, the weeds, etc., are all turned under, the best soil is left for the nourishment of the growing crop, and the whole field is also subsoiled. Two teams, and a boy to drop in the seed, will put in near two acres a day.

After planting, the land is left until the shoots begin to break the ground, when a two-horse harrow is thoroughly used, followed by a roller to pulverize the soil. In about a week they are ready for the cultivator, with which they are dressed once a week until six inches high, and then slightly banked up with a shovel plow. When the blossoms are set, another banking up is given with a large shovel plow. Weeds growing afterward, are kept down with a cultivator, or by hand labor, but the hills or drills are not disturbed. The fork spade is recommended for digging the crop, but this labor may also be lightened by the use of a potato digger, drawn by a horse.

Laying out a Farm—Economy in Fencing.

A subscriber in Champaign Co., Ill., asks for the best method of laying out a forty acre farm. The house, he says, stands nearly in the middle of the east line, and back thirty rods from the road. In front of it is a low wet spot, etc.

It is impracticable to answer the many such requests that are daily received for information for the special benefit of individuals, but the following suggestions may be of service to many somewhat similarly situated.



One of the first points to be studied, is economy in fencing. As usually laid out, farms at the East have four rods of fence where one is needed. One, two, and three acre lots are common, and many persons have actually expended more for making stone walls than their farms would sell for. We suggest as the first division of a farm similar to the above, a line running just back of the house and parallel with the road from the north to the south line of the farm. (N. to S. on the diagram.) The wet place in front of the house we would drain and cover over, making all smooth and dry from the house, H, to the road. An acre of ground, L, will be enough for the lawn, and this may be bordered with fruit or ornamental trees. In the rear of this and adjoining the house, a large garden, G, may be arranged. The remainder of the front lot can be devoted to orchard, O, and feeding lots, F, according to the stock kept upon the farm and the circumstances of the owner. B, marks the location of the barn and cattle sheds. If seven acres be devoted to these small lots and the farm buildings, it will leave thirty three acres in the remainder of the farm. These might be divided into three more

lots by running two fences, 2 and 3, parallel with the first, at equal distances apart. This would make three eleven-acre lots, and they might be cultivated in a three years course, until the owner was ready to buy more land.

The rotation might be, corn on the sod first year, wheat the second, and grass the third. The rotation will have to be determined by the circumstances of the owner, and the markets to be supplied. If many cattle are kept, and grazing is the main object, the lots can be kept longer in grass.

In regard to the drainage in front of the house, if neither stone nor tiles are available, a drain may be made of logs, or even boards, that will last many years. The appearance and healthfulness of the place will be very much promoted by a covered drain.

The best Tool for Tillage.

The stirring of the soil, after the crops are started, is a matter of the first importance. From one-half to three-fourths of a crop of corn may be made by tillage alone. On old land, well stocked with weeds, not over twenty bushels to the acre could be realized without cultivation. Twice hoeing and cultivating would probably add ten bushels to the acre, and twice more would bring the crop up to forty bushels per acre. We have seen estimates from farmers, who experimented upon this point, showing that every hoeing added from five to ten bushels to the acre.

A great deal of ingenuity has been expended upon the implements of tillage. The hoe is good enough, but for its expensiveness. The light horse plow, or sweep, is much more economical; but these tools require two or three furrows to each row, and are a pretty heavy tax upon the strength of the horse. The horse harrow, and cultivator, are great improvements upon the plow, for they are much lighter, and stir the ground deep enough. The horse-hoe is a much lighter implement than the cultivator, and if a farmer is investing in new tools, he should get this in preference to the cultivator. It is merely a question of economizing the strength of the horse. A good steel-toothed cultivator will make a clean sweep of every weed within an inch of the rows of corn, and stir the ground deep enough. A horse-hoe could not do the work much better, though it would draw easier, and the horse might get over a little more ground in a day.

We need not so much better implements of tillage, as a more frequent use of those we have. Corn can be cultivated wholly with the horse, after the first weeding, if the rows run both ways; and we doubt if any better use can be made of horse flesh, after the first of June, than to keep it running between the rows of corn. We are confident that five times cultivating will pay much better than once, or twice. As between the horse-hoe, and the steel-toothed cultivator upon smooth land, we should say, that is the best which is most used.

PROFITABLE DAIRY.—Mr. Renben Haynes, of Barre, (Mass.) stated to the Mass. Legislature Ag. Society, that a neighbor of his kept 24 cows last season from which he made 650 lbs. of cheese per cow, which brought him 104 cts. a pound. The calves were sold for \$12 a head, and each cow should be credited with \$10 worth of butter, besides the whey and buttermilk fed to the hogs; thus giving a return of \$88.63 per cow.

Fig. 1—PIGEON TREMEX (*Tremex Columba*)—PERFECT INSECT.

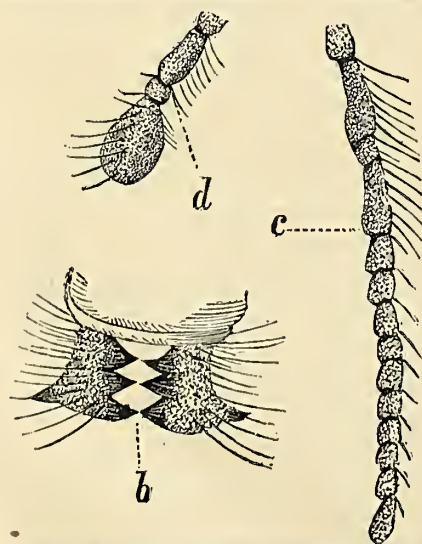
Microscopic Views of the Insect World.

BY MRS. CHARLOTTE TAYLOR.

PIGEON TREMEX—*Tremex Columba*.

A few years ago this insect was considered very rare; collectors thought they obtained a prize when it was added to their cabinet. Of late years they are rapidly on the increase, and are establishing themselves on fruit trees, to the destruction of many orchards. The one here represented, I caught last September, making her tenth orifice in a foreign plum tree, which had been nourished and treasured by its owner for three or four years, in hopes of obtaining a gratifying result. I hear complaints of them from every part of the country.

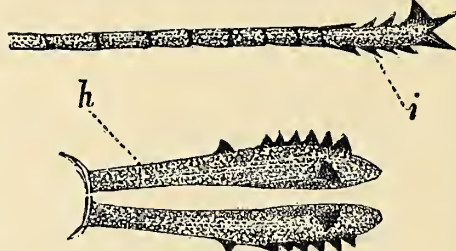
It belongs to the division Hymenoptera, first family Tenthredo—subgenus Tremex. It is a large insect, two inches in length; wings brown and semi-transparent, with two cubital cells extending more than two inches; the mandibles, *b*, Fig. 2, trifid and strong; the antennæ, *c*, Fig. 2, have fourteen joints; the palpi, *d*, Fig. 2, are three-jointed. The legs have singular hooks

Fig. 2—*b*, Mandibles or jaws—*c*, Antennæ—*d*, Palpi.

which enable the female to grasp with strength the bark of the tree on which she is at work with her saw. The parts of the body where

you see the light points, Fig. 1, are of a bright yellow—the remainder a rich reddish brown. She has seven ocelli (little eyes) between her large eyes. Her saw, *h*, Fig. 3, is a most effective instrument. It is hidden under the abdomen, covered with a sheath—it is only protruded its entire length when in use; this sheath is strongly toothed as well as the saw. When she has selected a tree, she bends her body and commences the hole with her borer, *j*, Fig. 4. When the orifice is large enough, she uses her saws—first horizontally, then lengthwise, until the opening suits her in length and breadth. The instrument

is then closed and drawn up in part, when an egg slides gently down into the cavity prepared for it, over which falls a drop of frothy fluid which protects the egg until it is hatched, which occurs in two or three weeks, when the depredation commences on the tree. The grub is cylindrical in shape at first, growing two inches, with a conical point at its tail, which enables it to push its way through the sawdust

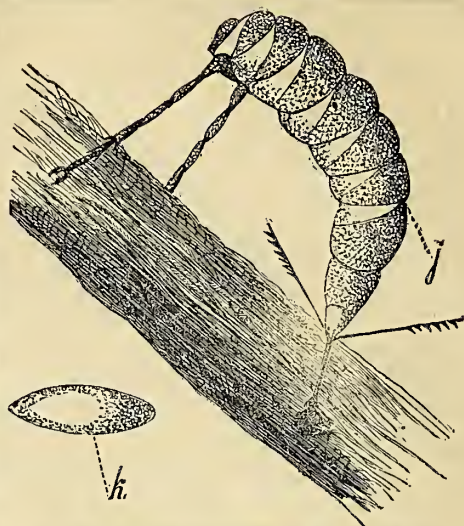
Fig. 3—*h*, Saw and sheath—*i*, Borer.

and excrement it accumulates in its burrow. They frequently remain over two seasons, boring their runs deeper and deeper, until the tree is completely sapped and destroyed. Every fir and pine tree, some years ago, was touched with one or more of these depredators, but now they have commenced on fruit trees, and we must be on the lookout to stay their progress if possible. During the warm weather the larvæ, *m*, Fig. 5, can be seen coming to their holes and protruding their heads as if to look round the world. They go into transformation by closing up both ends of their hiding places with sawdust, and spinning coarse, strong cocoons; here they remain over the Winter, coming out perfect insects in the latter part of July.

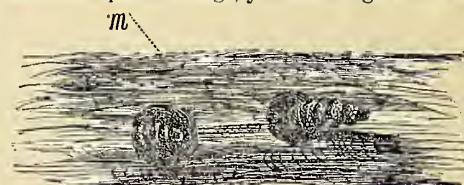
Very luckily for us, sometimes the mother fly bores in with her saw to such a depth that she can not withdraw it, and consequently dies in the performance of her maternal duties. But our greatest dependence is on a small Ichneumon fly—the *Pimpla vivida*—Active Pimpla. Fig. 6.

These flies are very numerous, depositing their eggs in the same holes with those of the Tremex, which in time come out and feed upon her larvæ, going into cocoon in the same orifices, and coming out in time, perfect insects.

The ovipositor of this Ichneumon, is a

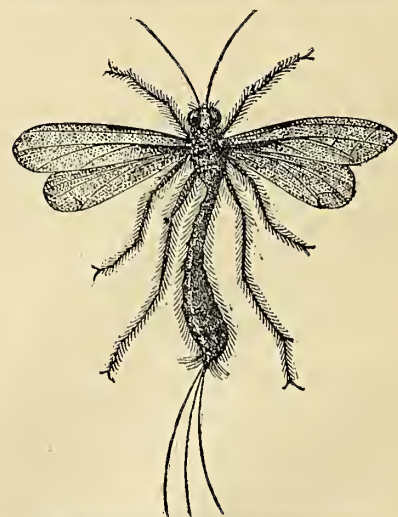
Fig. 4—*j*, Insect commencing to bore—*k*, Egg.

saw within a sheath, like that of the Tremex. It is necessary to enable her to penetrate the fluid dropped on the egg, which when dry becomes firm and solid. This fly is black, has clear transparent wings, yellowish legs and an-

Fig. 5—*m*, Larvæ in their holes.

tennæ. Often it thrusts its ovipositor to such a depth, that it is caught like the Tremex, and dies the same miserable death.

The best mode of destroying these insects is to examine the trunk of the tree very carefully, and wherever a hole made by one, is found, thrust a knitting needle into it as far as possible; dip it frequently into a small bottle of turpentine, and close up the hole with a paste made of wood ashes finely sifted, mixed with salt. This remedy has never failed when carried out with care. If we reflect, we can see the use of these apparently obnoxious insects, in keeping down an exuberance of vegetation, destroying super-

Fig. 6—Active Pimpla (*Pimpla vivida*.)

abundant trees in our immense forests—thus making room for a younger growth.

The progress of knowledge is slow. Like the sun, we can not see it moving; but after a while we perceive that it has moved onward.

Foot Rot in Sheep.

As warm weather approaches, the inexperienced owner of sheep may be surprised some morning to see numbers of his flock limping about the field; an expert will at once recognize symptoms of the foot rot. An examination of the foot of a sheep so affected will show the presence of disease in the skin and flesh in the cleft of the hoof. In the first stages, there is inflammation in the hinder part of the cleft, where the naked skin appears. Ulceration follows, and extends to the whole inner part of the foot, until in time the horny covering is separated from the flesh, and hangs by the skin at the upper part. A most offensive discharge issues from the sore, attracting the fly, which deposits eggs in the diseased part, and the whole becomes a living mass of corruption. The rot may be confined to one foot, or it may affect all at the same time. Unless cured, it will destroy the sheep, which must suffer excruciating pain as the disease progresses. In the latter stages, when the foot is completely disorganized, the poor animal is often compelled to hobble about upon its knees; and in many instances, the discharge from the feet has saturated the wool, attracting insects which have burrowed into the skin and added to the torments of the sufferer.

Numerous experiments have shown the disease to be highly contagious. A healthy sheep inoculated in the foot with virus from the ulcer of a diseased animal will be sure to take the infection. It has been spread through large flocks by the introduction of a single infected animal; and it is believed by many experienced flock masters, that the poison is retained for a long time in pastures where such sheep have fed.

It can be cured. Mr. Randall, in his "Sheep Husbandry" gives an interesting account of his successful treatment of a flock numbering about eight hundred head, that took the rot from a few imported animals. His method was substantially as follows: Choose a time, if possible immediately after a rain, when the hoofs are softened by the wet grass. Drive them into an enclosure thickly littered with straw, to keep the feet clean. Take each suspected sheep, lay it partly on its back and rump between the legs of the operator who may be seated in a chair. If the hoofs are too long, shorten them with toe-nippers. Remove all filth from the toes by drawing a wet cloth through the cleft.

If the erosion and ulceration are confined to the cuticle and flesh in the cleft above the walls of the hoof, no paring is necessary. But if the ulceration is established between the hoof and the fleshy sole, the ulcerated parts must be entirely denuded of their horny covering, by paring with a sharp knife. In an advanced stage of the disease it may be necessary to remove the entire hoof, as all loose horn should be cut away. If maggots appear, pour on a little spirits of turpentine and they will leave. Then cleanse the foot with a wash made of one pound of chloride of lime to one gallon of water; or with water alone, heated to near sealding. If there be "proud flesh" remove it with scissors, or by burning with hot iron. If the disease is in the first or second stage, and no abscesses are formed in the flesh of the sole, a thorough application of a saturated solution of blue vitriol will be sufficient. One pound of vitriol will suffice for ten or fifteen sheep. Put the solution in a tub, keep it as hot as can be borne by the hand, and when the hoof is pared, hold the sheep so that he will stand in the tub five minutes. Keep the solution hot by adding fresh supplies. If

abscesses are already formed, go over the diseased surface with muriatic acid, which may be conveniently applied with a swab of tow; after which apply the vitriol solution. Then coat the wounded surface with tar, to keep out dirt and flies, examine it every three or four days, and repeat the treatment if needed, and a cure may be looked for with reasonable certainty. *

"Sparred" Floors for Stables.

Quite a controversy is going on among our cotemporaries in regard to the best stable floors. The fact seems to be overlooked that the circumstances of farmers are widely different, and what may be the best stable floor for one, would be very bad, or the worst, for another. Alderman Mechi has adopted sparred floors, or those made of joists set edgewise, with more or less of space between them, according to the size of the cattle to be stabled. He has several objects in view in this kind of flooring. He wishes to turn all the droppings of his cattle into liquid manure, to be distributed over his farm by means of pipes and hose. He has large tanks underneath the stables, into which all the manure falls through the sparred floor. Here it is mixed with water, and prepared for distribution. Of course, there is no fermentation of the manure, and no release of gas from beneath, to affect the air of the stables. He also designs by this method to save straw, which would be needed for bedding with tight stable floors. He claims a great saving in using straw for food.

It is no doubt true that sparred floors keep cattle clean with little bedding, and save much labor in removing the manure. But almost all of our modern barns are constructed with reference to making compost, and the stables are arranged immediately above the barn cellars. The cellar is usually open upon one side, and the sparred floor would give a constant draft of cold air from beneath. However well this might answer in Summer, it is an insuperable objection in Winter. They should not be used unless the cellar is made perfectly close. The saving of labor and straw are the main advantages of this floor.

Another style of floor is the raising of the bottom of the stall four or five inches above the gutter immediately behind the animals. The platform is of tight plank, and inclines two or three inches toward the gutter, this carries off all the manure, and keeps the animal dry and comfortable, without bedding. This may be the best flooring for those who have no muck available, or refuse material for bedding.

Others, who have well-dried peat or muck, and bedding, prefer to keep these articles constantly under their cattle. The quantity of urine that a load of dry peat will absorb, is much greater than any one supposes, who has never tried the experiment. A layer a foot thick, with a little straw, will keep the animal dry and comfortable for a week or more. The solid feces have to be removed daily. The animal heat is made available for the decomposition of the turf, and the manure heap is increased more rapidly by this method, than by any other we have ever tried. The peat is also very much broken up, and comminuted, by the continued tramping of the animal's feet. Almost every particle is brought into repeated contact both with the urine, and with the atmosphere. As soon as the mass becomes thoroughly moistened, and before it is saturated, it is thrown into the cellar, and replaced with a new bedding. For the man who has plenty of the raw material for

manure making, this will be found to pay much better than sparred floors.

Galls on Horses.

As the heat and labors of the season increase, horses will suffer from various flesh-wounds, which, if not immediately cured, will cause great suffering to the horse, and waste of time and temper to the owner. Let, therefore, a hint or two be now heeded:

Prevention is better than cure. In the first place, be sure that your harness is in perfect working order. See to it especially, that the collar fits well, and is smooth and hard. If the inner surface is rough, it must chafe, and soon wear off the skin. A loose layer of leather under the collar, is a good contrivance to lessen friction upon the animal's neck and shoulders.

While Spring work is pressing, let the horses' shoulders be washed, every other morning, with a solution of alum and whiskey. This being a powerful astringent, will serve to toughen the skin and prevent its breaking. At night, when coming home from work, sweaty and sore, let the shoulders be washed with tepid water, then rubbed dry. If, notwithstanding these precautions, galls occur on the breast or back, wash them clean, then apply an ointment made by mixing together a spoonful of pulverized alum and the white of an egg. *

For the American Agriculturist.

Cost of Keeping a Horse.

During the past Winter, as well as on previous occasions, I have calculated the cost of keeping horses, both young and old; and my experience has led me to believe that a horse weighing 1000 lbs., and being worked more or less, several times a week, can be well kept on fifteen lbs. of hay (five lbs. at each meal) with three quarts of corn, or six quarts of oats per day. The cost will, of course, vary according to the prices of hay or grain: when hay is worth, as it now is, \$20 per ton at the barn, and oats 50 cts. per bushel, the cost would be about \$1.70 per week. Many owners of horses, especially farmers, are apt to give their horses too much hay. It is not necessary that the feeding rack should be kept full of hay all the time; this is decidedly injurious to their health and usefulness. If the hay is cut, they can consume enough in six hours out of the twenty four, two at each meal, to keep them in good condition, and they will be much less liable to contract diseases, especially heaves, than if more is fed to them.

F. E. HOWARD.

The Family Pig.

Thousands of our readers reside in villages, on homesteads of less than an acre, and raise, or might raise, with little expense, their own pork. Some have given it up from the rather vague conjecture that home-made pork costs more than that which is bought in the pickle. They have never kept accurate accounts, but the frequent calls for another bag of meal, or corn, give them the impression that piggy is a very expensive animal. They do not like the bother of slaughtering, of cutting up and salting, of curing and smoking hams. So the pig sty is abolished, and they forego the luxury of home-made pork.

The writer confesses a penchant for this article, so decided that he would continue its manu-

facture, if he knew it cost a cent or two a pound more than the prime pork of the market. We have occasionally had to fall back on the market, with such unfortunate experience, that we were inclined to believe the stories about the unwholesomeness of swine's flesh. The pork of the West, fattened wholly, or in part, upon mast, is certainly a very different article from that made in a clean sty, upon nicely cooked Indian meal, with the slops of the house for a condiment and change of diet. This, according to the writer's experience, is always a wholesome article of diet, and almost indispensable in house-keeping. It always swells in the pot, and cooks to advantage. What were baked beans, or the imperial dish of succotash, without the piece of fat pork, unstreaked with lean? Your boiled chicken, or mutton leg, were vanity without this accompaniment. He who has not eaten pan fish, fresh from the sea, seasoned with slices from the pork barrel, has never eaten fish in their perfection.

The family pig pays his way as well as any other animal about the house, and is a necessary link in economical house-keeping. He saves all the wastes of the table, and turns them into nice lard, and clean cuts of ham better than any sugar-cured article from Cincinnati. The housewife, or cook, however wise or prudent, must have some waste potatoes, bread, pudding, corn cakes, and griddles, in imminent peril of spoiling. Piggy saves them all as carefully as if they were shillings.

Then he is an industrious manufacturer, turning every sod and weed thrown in the sty into gold. Give him the material, and he will make at least ten dollars' worth of manure in the course of the season. With plenty of manure, there is almost no end to the luxuries you can conjure from the little homestead of an acre. To say nothing of a dozen kinds of vegetables, the year round, there are nice dishes of strawberries, raspberries, and the smaller fruits in Summer; grapes, pears, peaches, and plums in Autumn; and apples for Winter. These all spring from the contents of the sty, and manure can be made cheaper there than it can be purchased.

In May, villagers usually select pigs, and put them up to fatten. It is a question whether Fall or Spring pigs are the best for this purpose. Pigs eight weeks old in May, with good care, will each make from 250 to 300 lbs. of pork by Christmas. Wintered pigs, weighing a hundred, live weight, ought to make from four to five hundred pounds of pork each by the same time. They are the more economical, but the pork is not quite so delicate, and there is a little more difficulty in curing the hams. With good management, we can make pork from either, for less than five cents a pound. *

Pigs more Profitable than Calves.

To the Editor of the American Agriculturist.

Early in April last year, I purchased 13 pigs, 4 or 5 weeks old, which were kept until October. I also raised 9 calves; and I send herewith an account of the manner of feeding them, and the results. When the calves were a week old, they were fed with skimmed milk, mixed with a little shorts, middlings, and poor wheat ground but not bolted, which is excellent for them. The ground feed was introduced gradually, commencing with a tablespoonful each, and increasing the quantity as they grew older. If fed too freely at first, it is apt to scour them, in which case the feed must be lightened until they are all right again. The litter in their pen

was changed every few days, for they should be kept dry and clean. I gave them fine soft hay once or twice a day until turned out into a field where the grass had a good start. Each calf was fed separately, as some eat faster than others, and would get more than their share if the milk were put in a common trough. When about three months old, a trough was placed near where they had been fed with milk, and bran or shorts was given once a day. The quantity was increased when the milk feed was stopped. The calves were red, Devon grades. They were in good condition, and were worth on the first of October from \$6.50 to \$7 each. I offered to sell them at the latter price, but found no purchaser.

The pigs were fed all the sour milk they would eat, mixed with a little meal, the quantity being increased as they grew larger. They had the range of the orchard until sold, which was on the first of October. They averaged 200 lbs. each, gross weight; and readily brought 5 cents per lb. or \$10 each, except three which were kept until December, and weighed when dressed, 265, 251 and 230 lbs. respectively. I paid \$2 each for the pigs in the Spring, and therefore received \$8 for the milk and meal fed to each one. The cost of the meal given to them was a little more than of the shorts, etc., fed to the calves, and the trouble of feeding the pigs was much less. I therefore conclude that when pigs will sell for \$4.50 to \$5 per cwt. gross, they are more profitable than calves. G. W. B.

For the American Agriculturist.

Poultry Raising—Black Spanish Fowls—Cracked Corn for Food.

I commenced keeping poultry three years since, by purchasing seven hens of mixed breed, and had the usual success with them. Not being fully satisfied with the result, I last year bought a pair of pure blood black Spanish fowls, and set every egg the hen could be induced to lay, using for nurses other hens of a less valuable sort. When possible, I set two hens at the same time, and turned the broods together after hatching. In this way I secured some fine broods of chickens, in my opinion the most graceful creatures that ever walked in a poultry yard. These were fed during infancy upon corn just cracked in a large coffee mill kept for the purpose, and every one was raised without any trouble. If this rule of feeding were invariably adopted, the disease called gapes, would not be known. At any rate, I have never had a case of that fell destroyer of chickenhood, since using this kind of food. The same food is equally good for ducks, and I believe for all poultry. When food is ground very fine, it produces derangement of the functions.

As soon as the chickens would swallow whole corn they were fed upon that, and since Feb. 11th, they have well repaid my care, with abundance of eggs of the most delicate flavor; for these eggs have a peculiar richness, superior to those of larger, coarser varieties of fowls.

My experience with the black Spanish hen has been, that she does not want to sit so often as the common kind, nor is she so tenacious of the idea when once possessed of it; one or two days confinement are usually enough to cure her.

In fine, I have proved to my own satisfaction, that hens of a good variety, *not too old*, can be kept to advantage, if properly housed, and fed on an abundance of wholesome food, such as corn, sunflower seeds, scraps of meat, boiled po-

tatoes, etc.; without putting peppercorns into their crops, or dosing with sulphur, cayenne, or any thing of the kind. L. B. R.

Eagleswood, N. J.

About Turkeys.

Who that has any savory recollections of last Thanksgiving Day, or of Christmas, and who that knows what large profits can be made out of these birds, does not wish to try his hand at raising a brood or two this Summer? Here are a few suggestions on the subject:

Experienced breeders insist that for raising good healthy broods, an old turkey is much better than a young one. A bird does not arrive at full maturity until from two to three years old. Audubon, the great American Naturalist, says: "The third year, the male turkey may be said to be an adult, although it increases in weight and size for several years more. The females at the age of four, are in full beauty." It is well known that when farmers have killed off their old birds, and raised their broods successively from young gobblers and pullets, the progeny has grown smaller every year. Chicks so raised are tenderer, and more likely to die off from cold and exposure. Hence the frequent remark from sagacious breeders, that you might as well think of improving your flock of sheep by breeding them from lambs, instead of vigorous, mature sheep. As a general rule, the cock and hen should be three years old and upward, and the two of different breeds. Every year, the earliest hatched, most vigorous, and best formed young birds should be selected for future breeders, and the others killed off when wanted.

During the Fall and Winter, turkeys need only moderate feeding, but as Spring opens, let the amount be increased, especially during laying time. Considerable pains should be taken at this last period, to tame them. After they have laid their first litter—say fifteen to twenty five eggs—break up their nests, but do it without their knowledge. Continue to feed and cosset them, and in a fortnight's time, they will begin to lay again. It is thought a good practice to turn over the eggs once or twice a week. When they have laid their second nest full, and show a disposition to set, let them do so. Put their first lot of eggs under a common hen, at the same time; and when they are hatched, give the chicks to the turkey-mother, who will take care of both broods. The turkeys should be hatched by the middle of June, or first of July, at the latest, so as to have them pretty strong before frosty weather sets in.

Considerable pains will need to be taken with the young broods. At first, they should be kept in a shed, or on a baro floor, where they will be warm and dry. For the first few days, give them hard boiled eggs grated fine. Then add to the eggs, some curd of sour milk. Then, afterward, for variety, feed a little stale bread crumbs. When they are a month old, give them Indian meal mixed with warm water. Set pans of sour milk where they can get a daily sip, if they like. Until they are ten days old, they should be housed at night, and let out during the day. When about a fortnight old, if the weather is then warm and settled, it is an excellent plan to make a large pen, a rod square, of boards sixteen inches wide, and keep the brood in that until they are able to fly over it. After that, they will take care of themselves, only they should be fed once a day to keep them from roving too far and too long from home.

Important Reports on Apples.

(Continued from page 110, which see.)

The reports below, together with those of last month, will be found of great value to those who wish to select apples for an orchard, or even for a small plot of ground. The reader will note that the reports are from all parts of the country, and from some of the leading and most noted fruit growers, editors, etc.: such as Hon. M. P. Wilder, Col. Dewey, Dr. J. A. Warder, Dr. Grant, Messrs. Parsons & Co., P. Barry, L. Maxwell & Brother, Isaac Hicks, A. Saul, R. Buist & Son, Joseph S. Cabot, etc.—indeed, almost every report is from high authority.

In the last number will be found reports from Mr. Peter B. Mead, editor of the Horticulturist, and from Mr. Wm. S. Carpenter, who thinks the Gravenstein the best apple in cultivation. To these reports we append as many of the remarks which accompanied them, as our limited space will allow. We have on hand several reports that are crowded out of this number, which we shall publish next month, and also give a summary of all the reports, with general remarks:

Summer. Autumn. Winter.

33. Bangor, Me.—Report from Henry Little.

William's Favorite.	Gravenstein.	Baldwin.
Sops of Wine.	Duchess of Olden-	Ribston Pippin.
Red Astrachan.	burgh.	Hub. Nonsuch.
s. Yellow Bough.	Porter.	R. I. Greening.
	Fameuse.	Roxbury Russet.
	s. Golden Sweet.	s. Ladies Sweeting.

34. Rockingham Co., N. H.—Report from Wm. H. Hills.

William's Favorite.	Porter.	Baldwin.
Sops of Wine.	Gravenstein.	Hub. Nonsuch.
Red Astrachan.	Piper (local).	Roxbury Russet.
s. Yellow Bough.	Wine Apple.	Morton's Red W'r.
		R. I. Greening.
		s. Calif Sweet, (lo'l)

35. Merrimac Co., N. H.—Report from Henry C. Blinn.

Shropshire Vine.	President.	Hercfordshire P'n.
Early Cathed.	Porter.	American App'n.
Early Harvest.	Autumn Beauty.	Baldwin.
s. Yellow Bough.	Gravenstein.	Red Cheek.
	s. Pine Apple Rus-	Esopus Spitzenburg
	set.	s. Danver's Winter.

36. Dorechester, Mass.—Report from Marshall P. Wilder.

William's Favorite.	Gravenstein.	Baldwin.
Early Harvest.	Washington.	R. I. Greening.
Red Astrachan.	Porter.	Roxbury Russet.
s. Yellow Bough.	Pomme Royale, or	Hub. Nonsuch.
	Dyer.	King Tompkins Co.
	s. Golden Sweet.	s. Ladies Sweeting.

37. Hampden Co., Mass.—Report from B. K. Bliss.

Early Strawberry.	Fall Pippin.	Baldwin.
Early Harvest.	Porter.	R. I. Greening.
William's Favorite.	Gravenstein.	Roxbury Russet.
s. Golden Sweet.	Maiden's Blush.	Northern Spy.
	s. Pumpkin Sweet.	s. Talman Sweeting

38. Worcester, Mass.—Report from J. M. Earle.

Early Harvest.	Porter.	Baldwin.
Red Astrachan.	Gravenstein.	R. I. Greening.
William's Favorite.	Fameuse.	Hub. Nonsuch.
s. Yellow Bough.	Mother.	Cogswell.
	s. Sheppard's Sweet.	Roxbury Russet.
		s. Ladies Sweeting.

39. Salem, Mass.—Report from Joseph S. Cabot.

Early Harvest.	Gravenstein.	Baldwin.
Red Astrachan.	Hub. Nonsuch.	Minister.
William's Favorite.	Fameuse.	Peeck's Pleasant.
s. Early S't Bough.	Porter.	W. Seek-no-further.
	s. Pumpkin Sweet.	R. I. Greening.
		s. Ladies Sweeting.

40. Providence Co., R. I.—Report from Josiah Keene.

Sapson.	W. Seek-no-further.	Baldwin.
Juneating.	Porter.	R. I. Greening.
Early Harvest.	Minister.	Roxbury Russet.
s. Yellow Bough.	Fall Pippin.	Peeck's Pleasant.
	s. Jersey Sweeting.	Newtown Pippin.
		s. Talman Sweeting

41. Hartford Conn.—Report from Daniel S. Dewey.

Early Harvest.	Fall Pippin.	R. I. Greening.
Red Astrachan.	Pomme Royale, or	Baldwin.
Early Strawberry.	Dyer.	Peeck's Pleasant.
s. Golden Sweet.	Gravenstein.	Roxbury Russet.
	Porter.	Black Gillflower.
	s. Yellow Bough.	s. Belden Sweet.

42. Stonington, Conn.—Report from W. Clift.

White Juneating.	Porter.	Roxbury Russet.
Red Astrachan.	Cogswell Pearm'n.	R. I. Greening.
Early Harvest.	Gravenstein.	Baldwin.
s. Yellow Bough.	Fall Pippin.	Peeck's Pleasant.
	s. Sheppard's Sweet.	Hub. Nonsuch.
		s. Sweet Russet, lo'l.

43. Litchfield Co., Conn.—Report from Horace Humphrey.

American Summer	Late Strawberry.	R. I. Greening.
Pearmain.	Gravenstein.	Hurlburt.
Early Harvest.	Fall Harvey.	Red Canada.
Red Astrachan.	Fall Pippin.	Baldwin.
s. Golden Sweet.	s. Victoria.	Peeck's Pleasant.
		s. Pumpkin Sweet.

44. Queens Co., (L. I.) N. Y.—Report from Parsons & Co.

American Summer	Fall Pippin.	Baldwin.
Pearmain.	Porter.	R. I. Greening.
Early Harvest.	Gravenstein.	Newtown Pippin.
Red Astrachan.	Fameuse.	Boston Russet.
s. Yellow Bough.	s. Willis' Sweeting.	Hercfordshire P'n.
		s. Talman Sweeting

45. Newburg, N. Y.—Report from Dr. C. W. Grant.

Early Harvest.	Primate.	Vandevere.
Red Astrachan.	Fall Pippin.	W. Seek-no-further.
Early Strawberry.	Porter.	Baldwin.
s. Large Yellow	Mother.	Northern Spy.
Bough.	s. Autumn Sweet	Am. Golden Russet.
	Bough.	s. Ladies Sweeting.

46. Westchester Co., N. Y.—Report from A. P. Cummings.

Early Harvest.	Porter.	Northern Spy.
Red Astrachan.	Gravenstein.	R. I. Greening.
Early Strawberry.	Fall Pippin.	Esopus Spitzenburg
s. Yellow Bough.	Rambo.	Baldwin.
	s. Jersey Sweeting.	Swaar.
		s. Ladies Sweeting.

47. Queens Co., N. Y.—Report from Isaac Hicks.

Early Harvest.	Am. Summer Pear-	Hub. Nonsuch.
Summer Rose.	main.	Peeck's Pleasant.
Summer Hagloe.	Gravenstein.	Baldwin.
s. Golden Sweet.	Porter.	Red or Str'd Pippin.
	Fall Orange.	Roxbury Russet.
	s. Autumn Bough.	s. Ladies Sweeting.

48. Hudson, N. Y.—Report from Wm. Brocksbank.

Early Harvest.	Gravenstein.	R. I. Greening.
Red Astrachan.	Porter.	Baldwin.
William's Favorite.	Fall Pippin.	Spitzenburg.
s. Yellow Bough.	Maiden's Blush.	Jonathan.
	s. Golden Sweet.	Roxbury Russet.
		s. Talman Sweeting

49. Geneva, N. Y.—Report from T. C. Maxwell and Bro.

Primate.	Maiden's Blush.	King Tompkins Co.
Early Harvest.	Gravenstein.	R. I. Greening.
Red Astrachan.	Hawley.	Baldwin.
s. Yellow Bough.	Twenty Ounce.	Hub. Nonsuch.
	s. Jersey Sweeting.	s. Talman Sweeting

50. Rochester, N. Y.—Report from P. Barry.

Early Harvest.	Gravenstein.	Fameuse.
Red Astrachan.	Fall Pippin.	Baldwin.
Porter.	Porter.	Northern Spy.
s. Yellow Bough.	St. Lawrence.	R. I. Greening.
	s. Jersey Sweeting.	Monmouth Pippin.
		s. Talman Sweeting

51. Newburgh, N. Y.—Report from A. Saul.

Early Harvest.	Primate.	Baldwin.
American Summer	Porter.	Hub. Nonsuch.
Pearmain.	Hawley.	Jonathan.
Early Joe.	Fall Pippin.	Melon.
s. Yellow Bough.	s. Autumn Bough.	Northern Spy.
		s. Ladies Sweeting.

52. Wilson, N. Y.—Report from E. S. Holmes.

Early Harvest.	Fall Pippin.	R. I. Greening.
Red Astrachan.	Gravenstein.	Baldwin.
Keswick Codlin.	Lowell.	Roxbury Russet.
s. Yellow Bough.	Fall Juneating.	Esopus Spitzenburg
	s. Holmes' Sweet.	King Tompkins Co.
		s. Talman Sweeting

53. Niagara Co., N. Y.—Report from Youngstown Farmers' and Gardeners' Club.

Early Harvest.	Gravenstein.	Baldwin.
Red Astrachan.	Primate.	Esopus Spitzenburg
American Summer	Fall Pippin.	R. I. Greening.
Pearmain.	Fameuse.	Roxbury Russet.
s. Yellow Bough.	s. Golden Sweet	Swaar.
		s. Talman Sweeting

54. Philadelphia, Pa.—Report from R. Buist & Son.

Bohannon.	Autumn Pearmain.	Baldwin.
Early Harvest.	Fall Pippin.	Smith's Cider.
Red Astrachan.	Rambo.	Monmouth Pippin.
s. Summer Sweet	Porter.	Northern Spy.
Paradise.	s. Sweet Vandevere	Swaar.
		s. Ladies Sweeting.

55. Carlisle, Pa.—Report from D. Miller, Jr.

Early Harvest.	Jeffers.	Lancaster.
Red Astrachan.	Porter.	York Imperial.
Early Ripe.	Rambo.	Ortley.
s. Summer Sweet	Smokehouse.	Fornwalder.
Paradise.	s. Cumberland.	Newtown Pippin.
		s. Ladies Sweeting.

56. Westchester, Pa.—Report from J. Rutter.

Early Harvest.	Jeffers.	Baldwin.
Summer Pearmain.	Hub. Nonsuch.	Fornwalder.
Red Astrachan.	Strode's Birning'm.	Smith's Cider.
s. Yellow Bough.	Smokehouse.	R. I. Greening.
	s. Jersey Sweeting.	L. I. Russet.
		s. Winter Sweeting.

57. Wilmington, Del.—Report from Geo. Pepper Norris.

Jeffers.	Fornwalder.	Smith's Cider.
Maiden's Blush.	Rambo.	Baldwin.
Strode's Birning-	Smokehouse.	Golden Russet, N.Y.
ham.	Summer Pearmain.	Penneck.
s. Caleb Sweet.	s. Talman Sweeting.	s. Christiana.

58. Pocahontas Co., Va.—Report from Isaac Moore.

Sine qua non.	Fall Pippin.	Rambo.
Early Harvest.	Gravenstein.	Golden Russet.
Long Stem.	Wine Sap.	R. I. Greening.
s. Yellow Bough.	s. Fry Apple.	Esopus Spitzenburg
		Hugh's Pippin.

59. Adams Co., Miss.—Report from S. L. Grier.

Early Harvest.	Elgin, or Relette.	Nickajack.
Red Astrachan.	Fornwalder.	Cullasaga.
Carolina Red June.	Harrison.	Carter.
	Gravenstein.	Disbaroon.
		Lumber Twig.

60. Jefferson Co., Ky.—Report from H. B. Byram, Ed. Val. F.

Early Harvest.	Maiden's Blush.	Raule's Janet.
Carolina Red June.	Fall Queen.	New-York Pippin.
American Summer	Rambo.	Jonathan.
Pearmain.	Pennsylvania Red	Wine Sap.
	Strack.	Yellow Bellflower.
		s. Red Wint'r Sweet

61. Herrman, Mo.—Report of Gasconade Co. Agr. Associat'n.

Early Harvest.	Vandevere of N. Y.	Newtown Pippin.
Red Astrachan.	Golden Pippin.	Raule's Janet.
Maiden's Blush.	Yellow Bellflower.	Michael If'y Pippin.
s. Yellow Bough.	Fameuse.	Ortley.
	s. Sweet Romanite.	Milam.
		s. Talman Sweeting

62. Cincinnati, O.—Report from Dr. J. A. Warder.

Early Harvest.	Maiden's Blush.	Yellow Bellflower.
Summer Rose.	Lowell.	Wine Sap.
Carolina Red June	Rambo.	Raule's Janet.
s. High Top.	Fall Queen.	Jonathan.
	s. Big Pompey.*	Canon Pearmain.
		s. Broadwell.

* The Green Sweet of Indianapolis.

63. Huron Co., Ohio.—Report from C. B. Simmons.

Early Harvest.	Fall Pippin.	R. I. Greening.
Summer Rose.	Late Strawberry.	Baldwin.
s. Yellow Bough.	Rambo.	Spitzenburg.
	s. Jersey Sweeting.	Red Canada.
		s. Broadwell.

64. Portage Co., Ohio.—Report from J. Bond & S. A. Speier

Early Strawberry.	Golden Pippin.	Roxbury Russet.
Red Astrachan.	Fall Pippin.	Spitzenburg.
s. Yellow Bough.	Pomme Royale, or	R. I. Greening.
	Dyer.	W. Seek-no-further
	Long Sower.	Belmont.

65. Adrain, Mich.—Report from Horticultural Society.

Early Harvest.	Pomme Royale, or	Belmont.
Red Astrachan.	Dyer.	Northern Spy.
Am. Summer Pear-	Late Strawberry.	R. I. Greening.
main.	Gravenstein.	Baldwin.
s. Yellow Bough.	Fameuse.	Yellow Bellflower.
	s. Jersey Sweeting.	s. Talman Sweeting

66. Knox Co., Ill.—Report from A. Williams.

Early Harvest.	Am. Summer Pear-	Roman Stem.
Carolina Red June	main.	Yellow Bellflower.
Early Pennoek.	Maiden's Blush.	Jonathan.
s. High Top.	Rambo.	Raule's Janet.
	Fameuse.	Willow Twig.
		s. Talman Sweeting

67. Adams Co., Ill.—Report from D. C. Benton.

Early Harvest.	Fall Pippin.	Winter Juneating.
Carolina Red June.	Maiden's Blush.	Wine Sap.
Red Astrachan.	Gravenstein.	Milam.
	Rambo.	Roxbury Russet.
	s. Golden Sweet.	R. I. Greening.

68. Great Salt Lake, Utah.—Report from Thomas Bullock.

Early Harvest.	Utah Pippin, (sd'g)	Spitzenburg.
Red Astrachan.	Mountain Chief, do.	Golden Russet.
Yellow Bough.	Rambo.	R. I. Greening.
s. Valley Sweet	s. Woodruff's Sweet	Baldwin.
(seedling.)	Pippin.	s. Spice Sweet.

REMARKS BY THOSE REPORTING.

35. Mr. B. says the Cathed originated in Concord, N.H., and is one of the finest Summer Apples, both for dessert and for cooking. He places the President at the head of Autumn apples.

38. Mr. E. says that there are other kinds that he wants to get in; for instance, he balanced between the Fameuse and Leland's Spice, and selected the former as more uniform in its quality, though not so good an apple as the latter. The Duchess of Oldenburg, and the Maiden's Blush are both beautiful fruits, enormously productive, of the first quality for the kitchen, and very saable in the market. For Winter the Ribston Pippin is capital, and Mr. E. is not certain that it should not take the place assigned in the list to the Cogswell.

39. Mr. C. says there are perhaps some varieties that he should prefer to some of the above, but he has not tried them sufficiently to justify their recommendation as best for cultivation.

41. Col. Dewey remarks that the Fall Pippin may be kept good until the middle of March. He thinks the Jonathan will rank 4th or 5th among Winter Apples, when it is better known.

49. This selection is made for general family use.

50. Mr. Barry remarks that in his list, some of the best apples of their seasons, such as Early Strawberry, Summer Rose, Pomme Royale, Swaar, Red Canada, Golden Russet, etc., are left out on account of some important defect. Individual tastes have much to do with a selection of this sort, yet Mr. B., in making this list, has endeavored to forget his own tastes and preferences, and only recommends those that have, in his judgment, a preponderance of the most important points of superiority.

51. This list is for the amateur. For eating, for family use, and for market, Mr. S. would add other sorts.

52. Mr. H. thinks that the King of Tompkins Co. will take higher rank when it is better known. Northern Spy is gaining in estimation in his region.

55. Mr. M. selected the apples giving most profit to the planter, rather than those having the highest character in point of flavor. Early Harvest is losing ground on account of its sometimes growing so imperfect. Early Joe is one of the best in flavor, but not so profitable, on account of not producing uniformly good crops of clear and perfect fruit. Early Ripe is a trifle later than Early Harvest, but handsomer and more certain of good crops. Esopus Spitzenburg is one of his favorites as to flavor and productiveness, but does not keep well.

61. This report was made out by a Committee of the Society, who paid due regard to the health, growth, productiveness and hardness of the trees, and to the value of the fruit both for market and table use.



HORSES—FROM A PAINTING BY LANDSEER.
(Engraved for the American Agriculturist.)

THE ENGRAVING.—No artist has achieved such success in the portraiture of animals as Sir Edward Landseer, from whose painting this engraving is taken. All his works show a sympathy with his subject, which enables him to bring out upon the canvas, not only correctly drawn pictures, but apparently the very spirit of the animals represented. The attitudes, and expression of the horses here shown, are full of life.

One is attracted to them as though they were sentient beings, and not mere representations; and we greatly mistake if the pleasure derived from a repeated examination of the sketch does not amply compensate for the large space it occupies. No nobler subject among animals could have been selected for a painting. The horse deserves the place he enjoys in the esteem of man, for he may be made a friend as well as a servant.

He is capable of sharing the pride and returning the affection of his master; and kind treatment and judicious training will thus be amply repaid. The subordinate features of the engraving, are admirably managed—the introduction of the finely drawn dogs in the foreground, is in keeping with the whole, and completes one of the finest designs yet presented to our readers. Others equally attractive will be given hereafter.

May Day Festival—A Holiday of the Right Sort.

We do not refer now to any old English custom, nor to the time-honored usage of any country. Why may not Young America originate a festival for other nations to observe? We propose a May-Day Tree-Planting Festival. There is many a street or public square, or Academy-Green, or open ground around the churches in every town, which needs the shelter and shade of trees. It is not an easy work for individuals to attend to these public wants; at least, the work is not likely to be done if left to them. It needs the enthusiasm that comes from numbers associated together for a common object, and it needs their united strength. We therefore propose to our friends everywhere, to fix upon the first of May, or some day soon after, when they will turn out together for a tree-setting holiday. The particular method of doing this work is not very important, but *some* kind of plan should be fixed upon, and measures taken to carry it out effectively.

Here is one plan: the inhabitants of North Street agree to devote the 10th day of May to adorning their street with two rows of shade trees. Each man promises to be on the ground at ten o'clock A. M., with five trees of the best sort ready for planting. After all have arrived, and exchanged greetings, they appoint one of their number President for the day, and then proceed to planting. The holes are to be dug of generous size, the trees are to stand at least eight feet from the fences, so as to allow of ample side-walks, and thirty to forty feet apart, so that the tops of the trees may develop their foliage fully on every side. Each tree is to be set out carefully, so that it will be sure to make a vigorous growth. All these matters are to be looked after by the President, who is armed, for the day, with despotic power.

We forgot to mention, above, that their wives and children and sweet-hearts are to accompany the planters—not to hinder their work, but to cheer it on, and crown its close with a collation. If an address be given by the clergyman of the parish, or by some other suitable person, and if there be toasts and short speeches and singing by others, these things will add much to the interest of the occasion. This is but one plan; perhaps a better can be adopted.

Doubtless, many of our readers will remember that, last year, when it was announced that the Prince of Wales would visit Canada, the leading men of Toronto consulted together how they might secure some lasting memento of his visit. They at length determined that the remembrance should be in the shape of an avenue of trees to be called "the Prince's Walk," and to be formed along one of their finest streets and bordering the Esplanade. Last Spring, a company of gentlemen, among whom was the bishop of Toronto, proceeded to carry out the design, by planting quite a number of trees on the spot referred to, leaving intervals for his Royal Highness to fill up when he should visit the city. The long expected time and the noble visitor arrived, and the trees were planted, and they will doubtless live and flourish in memory of the Prince, long after he has passed away from the earth.

Now, every one will exclaim, "Good!" to that. The tree-planting was good, and the loyal and friendly feeling for the young Prince was good. We have, indeed, no Royal visit to commemorate, but we have other reasons enough to induce us to adorn our road-sides with umbrageous trees. Shall not this work be prose-

cuted this Spring, with great energy? What say our young readers, and the older ones, too, who have not lost all the juices of their youth, or their public spirit!

Letter from Pod Auger, Esq.

DWARF APPLES—GRAPES—WHITE STRAWBERRIES.

*Up in the Mountains, Tioga Co., Pa. }
In the Spring of 1861.*

MR. EDITOR: Nearly two years ago I think, (see Vol. XVIII, 1859, Feb. No.) I did indite an epistle unto the editor of the *American Agriculturist*, humbly entreating said Editor, or some of his 500,000 readers to give a tyro some information on the subject of dwarf apple trees. The letter was duly published, with a note by the Editor, asking some one to respond; but unfortunately the subject only related to that old-fashioned fruit, the apple, and no one did so. The horticultural and pomological world being just then rather absorbed in the all-engrossing question of pear on pear, *versus* pear on quince, I was left to the pursuit of pomological "knowledge under difficulties," and thrown back on the *Yankee* within me. Having frequent calls from tree-dealers, I took to button-holding them unmercifully for the desired information, and at last found out, what any intelligent pomologist should have been able to tell me, that the Doucain—much used for dwarfing the apple—was not a proper dwarf, but a slow-growing tree or semi-standard, while the Paradise was a true dwarf, which might very properly be planted at intervals of six feet. So much for dwarf and semi-dwarf stocks.

What varieties do best as dwarfs? That was the next question, and one not so easily answered by a tyro, while the information to be derived from dealers and propagators, who had large assortments of many varieties which they must sell or lose, did not seem the thing on which to rely, for one who could plant but a few trees, and could not afford to make mistakes. In order to come to this point rightly, I turned "observationist," and took to haunting the gardens of all my friends who had dwarf apple trees under cultivation. Fortunately, the past season was most propitious for observations of this character; and, putting what knowledge I have been able to glean the past season, with the notes of several previous years, I can name a few varieties of apples that may be depended on for a most liberal crop, either on the Paradise or Doucain: For two varieties, one summer and one winter, Early Joe and Wagener. For four varieties, add Red Astrachan and Baldwin.

There are doubtless other varieties nearly as productive as the above, but, of some twenty varieties which I have seen fairly tried, they were the only satisfactory kinds; the Early Joe bearing full crops of "best" apples, and the Wagener overbearing, as it usually does in fact, either as a dwarf or standard; while the Astrachan and Baldwin have proved free, regular bearers.

Now, who can speak with knowledge and certainty as to the newer varieties of grapes? Not as to quality—that can be easily got at; nor as to rapidity of growth, or even hardness, for these are points easily settled. But who can tell us how many of them will thrive when stubbed down to the short-rod system, or as one cultivator and writer recommends, *stubbed down to the ground every alternate year*.

How many, and which varieties, will continue thrifty and productive under the single cane system in vogue about Cincinnati? Will the Con-

cord? or the Clinton? Has any body tried it on the Hartford Prolific? on the Delaware or the Logan? and if so, with what success? Surely some of these varieties have been in cultivation long enough to have these points tested.

In my last I mentioned some varieties of wild white strawberries as being excellent, and so large as to seem worth the trouble of cultivating in the garden. Well, I tried them for two seasons, and made up my mind that they were "adapted to certain localities," said localities being side-hill pastures and meadows, mostly. They proved *very* productive in vines and foliage, but the berries were actually smaller than when grown in the wild state, and they were less productive, so I *raised* them on a spading fork, and threw them over the fence.

Yours, as of old, POD AUGER.

A New Winter Pear.

The Duchesse d'Angouleme is not indeed the best Autumn pear, yet the vigor and productiveness of the tree, and the size and good quality of the fruit, when in perfection, make it a desirable variety for orchard culture. A like success, which no Winter pear has yet obtained, seems reserved for a new fruit, which was crowned by the Horticultural Society of Haute Garonne, France, and honored with the name of Duchesse d'Hiver, or Winter Duehess. The editors of the *Revue Horticole* highly recommend it from their own personal knowledge. Both on the pear and quince, it unites great vigor with great and precocious productiveness. The fruit, in size, form and color, resembles the Duchesse d'Angouleme. The skin is of a much clearer green, less spotted, washed with red on the sunny side, and at maturity of a paler yellow. The flesh is melting, juicy, sugary, and often highly perfumed. It ripens gradually, from the first of January to the last of March. The blossoms, which are large and number from 6 to 8 in the same cluster, set well. We hope this may prove to be with us a desirable Winter pear. Many of our imported varieties are of the highest excellence, yet very often those that are greatly esteemed abroad, are here found to be of inferior quality.

Suggestions about Dwarf Pears.

The fine crops of pears on the quince stock, everywhere enjoyed last year, will undoubtedly revive the drooping faith of planters, and lead to larger and longer trials. A hint or two, here, may be of service to the young planter.

1. Take pains in the selection of varieties. Not every sort succeeds well on the quince-root. Some thrive well for a year or two, and then fail. Others do well if double-worked, i.e., if budded on a grafted limb. Study the fruit-books, and especially the reports of local societies. Consult some experienced and honest fruit-grower in the neighborhood, and find what his opinions are. Probably no one doubts that the Louise Bonne de Jersey, and Duchesse d'Angouleme, and Vicar of Winkfield, succeed well. Take these for granted. A few others may be added, on which, however, planters are not so unanimous. Among them we name: Osband's Summer, Doyenné d'Ete, Tyson, Buffum, Buerre d'Amanlis, Beurres Diel, Glout Morceau, Easter Beurres, Stevens' Genesee.

2. Choose low-worked trees. After a good deal of controversy, and varied success from different methods, planters are settling down

upon the opinion that little or none of the quince stock should be left above ground, in planting. A few still hold that it may rise an inch, or half an inch; others maintain that it should sink nearly an inch below. We incline to the latter doctrine. Being so planted, the quince stock is protected from the severities of northern Winters, and from the ravages of the borer. Then, too, this allows the pear stock to emit a few roots into the soil, which enable the tree to stand more firmly against high winds. If the pear stock is set much lower than this, it sends out large roots, and the tree ceases to be a dwarf.

3. In setting out trees, use no manure. The soil should be well trenched or plowed. After digging the holes, a few rich sods, or some leaf-mold may be thrown into the bottom, but the roots of the tree should be surrounded only with good common soil. During the Summer, mulch the surface with leaves or other like material. In the Fall, apply a peck or so of good half-decomposed manure to the surface, and let it lie there until Spring, when it may be worked into the soil. Of course, the ground as far as the roots extend in it, (and they extend further than is generally supposed,) should not be cumbered with any growing crop—such a crop not only robs the tree of its appropriate food, but the digging of the soil during cultivation, is sure to mangle the roots of the trees.

Of the pruning of the dwarf pear, from year to year, we can not now speak. This has been done heretofore, and will be again, as needed.

Too Old to Plant Trees!

This is the complaint of many a man in middle life, or when rounding over the hill of his pilgrimage. He thinks he shall never live to eat of their fruit, or to sit beneath their shade; so it will be of no use to plant. He's too old, too old!

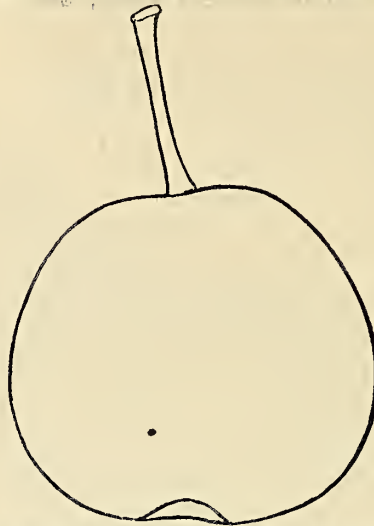
What if you *don't* live, dear man, that is no reason for not planting. Suppose your predecessors had refused to plant those orchards from which you annually gather apples and pears, what would have been your lot now? And would you bless or curse their memories, for their selfishness? Suppose your fathers had refused, for the same reason, to plant shade trees along the margins of your village streets, where would be those noble avenues in which the present generation rejoices, and which make your ancestors' names, words to be spoken only with reverence and praise! If you indulge such a churlish disposition, it is doubtful whether you *will* live very long to enjoy anything; such a spirit sucks the fountain of life dry, quite early. Each generation receives a dowry from the preceding, and should hand over the inheritance, much enlarged, to the following.

The Rural New-Yorker once reported the receipt of some extra fine maple sugar from Mrs. Knapp, of Clarkson, N. Y., who was then eighty five years old. This lady gathered the sap and made the sugar herself from trees planted near her dwelling after she was sixty years of age! What will our grumblers say to that!

NOVEL DECEPTION.—Adulterations of almost every article of food have long been practiced, but the following is new to us. Mr. W. L. Scott, in a recent communication to the London Society of Arts, states that he has seen English apples, of inferior quality, colored superficially in imitation of American Newtown pippins, and sold at the high price which the latter command in that market.

Doyenne d'Ete Pear.

We give below an outline of one of the best summer pears now grown. It ripens the latter part of July. The fruit is handsome, juicy, melting, delicious. The tree is a vigorous grower, and bears regular and abundant crops.



Mr. Barry's brief description is: "A beautiful, little, melting, sweet pear; tree a fine grower and bearer, and succeeds well on the quince.—August." Mr. Downing says: "Skin smooth, fine, yellow, often shaded with bright red, and covered with numerous gray or russet dots.... Flesh white, melting, juicy, with a sweet pleasant flavor. A very good early pear, ripening about the same time, or a little later than Madeleine.—Last of July." If any one has a blank in his list of summer pears, either on the quince or pear-stock, let him not hesitate to fill it with the Summer Doyenné.

Herbaceous Perennial Plants—Their Value, and how to Cultivate them.

Herbaceous Perennials are distinguished from annuals, by their living for many years on the same root; and from bulbous-rooted plants, by the quality of their roots and their habit of growth; and from shrubs, by the fact that their soft, succulent tops die to the ground every year. Among the herbaceous plants the most commonly known, are the Peony, tall Phlox, Dicentra, Sweet William, Chrysanthemums, etc.

It is a matter of no little surprise that this ancient and honorable family of plants should be less sought after than formerly. Bedding plants are "the rage" now, to a ridiculous degree. To be fashionable, and up to the times, a flower-garden must be in a blaze of brilliant colors, scarlet especially; there must be masses of verbenas, masses of petunias, masses of geraniums, and what-not hard-named exotics. We do not object to these plants; they should appear in every garden, if possible; but we *do* object to the taste which employs them to the exclusion of others; which prefers their flaunting, short-lived beauty, to the more modest and more varied colors of the hardy and perennial herbaceous plants.

These last named plants are fast friends. They do not give up the ghost at the first frost, but live at the root, year after year, and spring up every season with new freshness and vigor. We become warmly attached to the old acquaintances. Then, their management gives one but little trouble. They do not need to be taken up every Fall, and carefully housed through the Winter, and then re-set in the Spring, as do the

dahlias and the various bedding-plants. All they ask is a good, generous soil, and an occasional trimming or division of the roots when they become overgrown. This will happen, perhaps, once in three or four years. Then, too, they furnish a pleasing succession of bloom through the season. Week after week, from May to November, some new flower opens, giving us new colors, new forms, and new fragrance.

But we would not indulge in seeming lamentations: that would be going too far. Cockneys and shallow people may affect to despise everything beside exotics, but it is not so with truly sensible people, with those who love the garden for its own sake. The last named people prize these plants above every other, and do not fail to procure every new thing that is worthy of the company of their old favorites.

The cultivation of these plants is very simple. Different sorts succeed best in different soils, but, as a general rule, a light rich loam suits them all. For those that are slightly tender, Spring is the best season for transplanting, because when set out in the Fall, they are apt to be thrown out by Winter frosts. For those whose tops die down before Autumn, late Summer is the best season for transplanting; they will then get partly established before Winter. Most herbaceous plants are propagated by dividing the roots, which can be done with a knife, for small plants, and a sharp spade for large ones. Those which do not increase much at the root, may be propagated by layers. Bend down a thrifty shoot in June or July, cut it partly through, peg it down and cover it with three inches of dirt, laying over the whole a flatstone. By the month of October, it will be rooted and ready to be cut from the parent plant for removal.

Nearly all perennials are benefited by some kind of Winter protection. Few of them, indeed, will die, if unprotected, but to all it will be beneficial. A shovelful of strawy manure, or of forest leaves, or a little tan-bark, is just the thing. They will start earlier in the Spring, and grow more vigorously for the treatment. In the next article, will be found a list of select varieties of herbaceous perennials.

What Perennials to Cultivate.

Having given some directions above for the culture of these plants, we now add a short alphabetical list of the best of them, with brief descriptions annexed. The young planter will then have some idea of the size, color, and habit of each plant before getting it. This knowledge will also aid in the proper arrangement of the plants:

MILKWEED. (*Achillea ptarmica*).—Has small, daisy-like, white and yellow flowers, in bloom nearly all Summer. Grows eighteen inches high, and is perfectly hardy everywhere.

CAMPANULA.—The pyramidal and a few other sorts are tender at the North, but most of the species are hardy as can be desired. The plants grow from one foot to two feet high; the flowers are mostly bell or cup shaped, double and single, blue and white. The peach-leaved is one of the finest species, and has many varieties. *C. Persicifolia*, single and double, white and blue, is very fine.

CARDINAL FLOWER. (*Lobelia cardinalis*).—Native and everywhere known, this is yet a much admired flower. There is something peculiar in the brilliant scarlet of this plant. It was transported to England about two centuries ago, and at the time of its introduction, a gardening au-

thor said: "It is a flower of most handsome appearance, which should not be wanting in curious gardens, as it exceeds all other flowers I ever knew in the richness of its color." There are many in England and in this country now who would fully endorse this opinion. The native blue Lobelia is pretty, but not equal to the scarlet.

CLEMATIS.—Of the many beautiful Clematis vines, we do not now propose to speak, though we beg just to drop a word for the highly fragrant *flammula*. Among the strictly herbaceous plants belonging to this family, the *erecta* deserves mention. It grows three or four feet high, and has white, star-shaped flowers, appearing in August. *Clematis integrifolia*, with blue, bell-shaped flowers, is particularly desirable. The petals before expanding, form a round, balloon-shaped flower—afterward they suddenly burst open.

CHELONE. (*C. barbata*).—Sometimes sent out as a Mexican Penstemon, has glossy, dark green foliage, lying close to the earth, while it sends up tall spikes of orange-scarlet flowers, shaped like the scarlet trumpet honey-suckle. The stalks often rise four feet high. The blossoms continue from July to October. Said to be slightly tender, but it grows well north of Albany, N. Y., without any protection. It is a favorite plant wherever known.

COLUMBINE. (*Aquilegia*).—Who does not know all about the Columbine, and love its nodding blooms? But does every one know into how many colors and stripes and shades, the common sorts sometimes sport? In a bed specially devoted to them, not far from the writer's window, are plants with several shades of blue, from almost black to pale blue, then white, yellow, reddish-brown, variegated, single and double flowers. Whoever has not seen this plant in its best forms, let him inquire for *Aquilegia canadense*, with maroon colored, or scarlet, or straw-colored flowers. *Aquilegia glandulosa*, a new and superior sort, is smaller than the foregoing: its stems rise a foot high; the flowers are sky-blue. All sorts bloom in May and June.

BUTTER-CUP. (*Ranunculus*).—Our Butter-Cup has lost his place in the alphabet, but the plant is just as good here as anywhere. The double yellow sort is very common, and increases almost too fast. But the pure white *ranunculus* has no drawback whatever. Its flowers are as perfectly formed as the best mountain daisy, and are larger. We could wish this plant were better known.

DAY-LILY. (*Hemerocallis*).—Several sorts, but the blue and the white are best. The variety having its broad green leaves conspicuously striped with white, is very desirable.

DICENTRA.—No new comer has found favor more rapidly or more deservedly. It is singularly attractive in flower, foliage, and habit. The blossoms are borne on a drooping raceme, are of a beautiful rosy pink color, appear early in Spring, and remain for a long time. The plant grows about two feet high, is easily propagated by division of the roots, and asks only fair treatment to maintain perennial beauty. Whatever else is omitted, give a place to the Dicentra.

EVENING PRIMROSE. (*Oenothera*).—The only perennial Evening Primrose with which we are familiar is the *grandiflora*, which is very fine. Its flowers are canary-color, nearly as large as a hollyhock, and open in succession for a long time. It grows ten inches high, blooms in July and August.

FRAXINELLA. (*Dictamnus*).—There are two sorts, one with white, the other with reddish flowers. Plant is 18 inches high. The leaves, when rubbed, have a peculiar aromatic fragrance, somewhat resembling lemon-peel. When the plant is in flower, a gas passes off from it, which in warm, damp evenings, may be lighted with a match.

LARKSPUR. (*Delphinium*).—Here is a family of plants which deserves the attention of every body. Hardy and flourishing in any soil not positively bad, and easily propagated by dividing the roots. The flowers are borne on spikes rising from two to six feet high, are of every shade from dark purple to pale blue, and continue in bloom nearly all the season. Some of the darker varieties have a certain metallic or coppery luster that is very striking.

The old Bee Larkspur must be had "for auld lang syne." Higher than this rank the double Chinese and Barlow's. Better still, are Breck's No. 1, and the *formosum*. The last named has got a national reputation. It is quite dark, often curiously mottled, always large, and showy. Breck's has a New-England fame, especially, but ought to be known everywhere. It is double, of a bright, lively sky-blue, the favorite of the ladies. Wrought into a bouquet with white pyrethrum, nothing can exceed it.

LYCHNIS.—There are many sorts, and all of them good. They vary in color from pink to vivid scarlet. The double scarlet is perhaps the finest. The old Ragged Robin, which belongs to this family, every body knows and loves in spite of his rags.

MONKSHOOD. (*Aconitum*).—Is an old-fashioned, but excellent plant. Most varieties have blue flowers, a few are white, yellow, and blue tipped with white. They throw up spikes of flowers, mostly two to three feet high. The popular name, monk's-hood comes from a fancied resemblance of the flowers to a monk's head-gear. This plant prefers a rather moist soil.

POPPY. (*Papaver*).—*P. bracteatum* is better than none, but *P. orientale* is better than all others put together. Set by the side of a white flowering shrub which blooms at the same time, the contrast of its brilliant scarlet is very effective.

PHLOX.—Of this family, so large and so excellent, we can only say that the beginner can hardly go amiss in procuring any of them. If you have room, begin by getting the creeping varieties, *stolonifera*, red, and *nivalis*, white, blooming early in May. Then, get an assortment of the medium-sized sorts, styled *suffruticosa*, which generally bloom in mid-summer. Respecting these, we can speak knowingly in favor of Abdul Medjid Khan, Esmeralda, Van Houtteii, and Imbricata. Get a collection of the later and taller sorts, called *decussata*, of which these are certainly good: Wilderii, Mary Ann, Alba perfecta, Comtesse de Chamboorde, and Triomphe de Twiekel.

SNAP-DRAGON. (*Antirrhinum*).—A singular shaped flower, but very beautiful, sporting into various colors, scarlet, crimson, yellow, yellow and white, yellow and crimson, etc. It took its name from the fancied resemblance of its flower to the mouth of a frog or dragon, and from the fact that by applying the thumb and finger to the corolla, it opens and shuts as by a spring.

As it is an imperfect perennial—being apt to die out every second or third year—it needs to be reproduced from seeds or cuttings. And as it "sports" when raised from seeds, the only way to preserve finely marked specimens is to propagate them from layers or cuttings.

SPIRÆA.—A large and worthy family, so large that we shall not undertake to call the roll. One can hardly go amiss here, but do not fail of *filipendula plena*, the flowers of which are worthy of a place in the bride's hair. *S. Japonica*, is very fine, and *ulmaria plena*, is not inferior.

But we have not room for further descriptions. Now, does some lady-gardener, who has only a small border to plant, ask us to name a dozen of the best, out of our list? Take the following: Dicentra; variegated Snap-Dragon; Aquilegia glandulosa; Chelone barbata; Breck's, the Double Chinese, and Formosum Larkspurs; Scarlet Lobelia; Phloxes, Van Houtteii, Alba perfecta, and Triomphe de Twiekel; White Ranunculus; Sweet-scented Violet.

A Hint in Grape Culture.

It is a well known fact, that vines trained according to the renewal method, sometimes become stunted, and make only a feeble and irregular growth. This is owing, some vineyardists say, to the fact that as the base or horizontal canes become old, their ducts become clogged, and retard the free and healthy circulation of sap from the root and trunk through the canes.

A grape-grower, at the West, having a few vines in this condition, tried an experiment upon them. He brought down the horizontal canes to the ground, at several points, fastened them there by stout pegs, and covered them with a few inches of soil. Roots were soon formed at each of these points, and the perpendicular canes above them grew with new and amazing vigor. He was so well pleased with the working of his plan, that he means to repeat it whenever a vine appears to need doctoring.

This practice is not altogether new. In cold graperies and in vineyards, it has long been customary to renew vines by layering a shoot, and then cutting off and digging up the old stock. The principle seems to be that the vine continually needs to make new roots and new canes, and to have a free circulation of sap from the root to the top. For the vine to stand still, is to sicken and die.

Gardens for Health.

On every side, we hear it said that American merchants, lawyers and mechanics are annually growing feebler, and becoming shorter lived, and all for lack of cheerful exercise in the open air. This fact becoming widely known, has led to the establishment of gymnasiums, boat-clubs, ball-clubs, etc., all over the country. For persons who can not get muscular exercise in any other way, this is all very well. But he who can get control of ground enough for a garden, will be much better off, and especially, if he own the garden. This pleasing occupation is far more healthful than wrenching gymnastics practiced by the clock, or the highly exciting and overtaxing exertions of boat-racing, and ball-playing. Morning and evening spent at home—pruning and hoeing and weeding and training—so employed, how can one help being happy and healthy? It would be an evil day for a man so situated, to hire a gardener to do all his work. What harm is there in a little sweat, a little dirt, and a few blisters, if thereby one keeps dyspepsia and ill health generally, at a distance?

Open your heart to sympathy, but close it to despondency. The flower which opens to receive the dew, shuts against rain.

An Impromptu Flower Garden.

Many a person in our cities and towns, would like to have a flower garden if he could buy one ready made, or could produce one instantaneously by the mere wave of his hand. For such persons we shall not now attempt to provide. Then, there are others, very fond of flowers, who yet imagine that it requires several years and a good deal of money to create a garden; and they therefore shrink from the undertaking. For such persons we feel sympathy, and wish now to speak a few comforting words.

It will, indeed, require several years to establish a garden, complete in all its appointments—its soil brought into perfect tilth, and its plants, shrubs, and vines into large and vigorous growth. This must be so, from the necessities of the case. But something, yes, much can be done in a single year. Let us see:

Suppose you have a piece of ground thirty or forty feet square. It is now in grass. If you can not break it up yourself, put one or more stout Irishmen into it, and let them spade it up thoroughly, and clean out all weeds, grass, and stones. Spread two or three inches thick of old manure over the surface, and work it in. And if you have a few loads of sand and leaf-mold from the woods, that may well go in. Rake the ground perfectly smooth.

Perhaps you are a rectangular person, and would like to make your garden beds into squares, triangles, parallelograms, etc. If so, the work is easily done. Perhaps you prefer curved and flowing lines, something after the style of the sketch in the opposite column. The shape is not very important; but, that our talk may go on, we will suppose that you adopt this one as your pattern. Get a dozen or two short stakes, and lay off your beds. Allow three or four feet width for the walks, and from four to six feet for your beds, just as your space will permit. Work your beds into the required shape, throwing the surface soil of the walks upon the beds. The graveling of the walks and the bordering of the beds with box, grass, tiles, or some other simple edging, may be done now or afterwards, as you please.

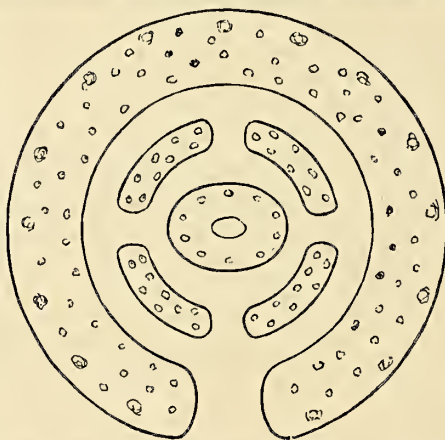
How shall the beds be planted? A great number of methods suggest themselves, but we will propose a very simple one: In the middle of the oval bed in the center, sow a circle of Morning Glory seeds, using those of various colors and shades. Set up a cedar pole in the center, eight feet high, and when the vines appear, train them on stout strings to the top of the pole. The remainder of this bed may be devoted to verbenas. In setting out these, you will, of course, take pains to arrange the colors so as to harmonize well. Set them eighteen inches or two feet apart, and by mid-summer they will cover the entire bed.

The four beds next around the oval, may be planted in either of two ways. Each bed may be devoted to one kind of flowers and of one color alone, or it may have a mixed assemblage of sorts and colors. For example: one might be given up to scarlet or crimson Petunias, another to white Candytuft, another to Drummond Phlox, another to Portulacaeas; or these might be planted indiscriminately, and others added to them, such as Asters, Marigolds, Scabious, Coreopsis, Balsams, Sweet Williams, etc. The first is more indicative of art, and is very striking; the last is more natural, and affords a greater variety of flowers.

The large, outer bed should be planted with some reference to the future, as well as the pres-

ent. On the back side, tall shrubs may be set, also roses, and flowering vines. So arranged, they will not obstruct one's view of the plants in the front of the bed: they will also serve to protect the whole plot from severe winds and from outside intrusion. In the April *Agriculturist*, page 114, we gave a list of good shrubs, from which selections might be made for this border. Next before these shrubs, we would set Dahlias and Gladioli. The foliage of shrubs and vines behind would set off the brilliant colors of these flowers with fine effect. The splendid autumnal show made by the Dahlia is well known, but it hardly eclipses the vivid beauty of the newer Gladioli. Unfortunately, these last are as yet scarce and expensive, but the older sorts, (*gandienensis*, *floribunda*, etc.) are cheap and very fine.

Next before these, but at intervals of five or six feet, we would set out choice biennial and perennial herbaceous plants. On page 146 will be found a list and brief description of several of these plants. "But where are we to



get all these fine things?" you ask. We reply, you are very unfortunate if you have not won the friendship of several gardening neighbors who would gladly supply you with many of the seeds, shrubs, and plants we have referred to. You may pay them something for these articles, if you please, but they would doubtless feel better compensated if you would only appreciate their gifts enough to take good care of them. But whatever you cannot get from such friends, you can buy at the seed stores and nurseries. The buying will not beggar you. If necessary, deny yourself those Havanas in which you too often indulge; give up that second cup of strong old Java which shatters your nerves; wear that same old hat or coat a few months longer before getting new ones; or in some other ways, economize a little, and the garden will not lighten your purse a single grain, but it will lighten your heart and your eye very much.

But we had not quite finished that outer border. Set out a few biennial and perennial plants this year, leaving room for others to be added at a future time. Between these, set out annual flowers of the taller kind, such as Larkspur, Salpiglossis, Scabious, Marigold, Asters, etc. In front, along the inside margin of the bed, set the lower growing annuals, such as purple and white Candytuft, Portulacaeas of various colors, Drummond Phlox, Alyssum, India Pink, Clarkia, dwarf Convolvulus, Gilia triolor, Mignonette, Nemophila, etc. These, well managed, will give an air of finish to the whole garden.

From the foregoing, it appears that one can get up an extemporaneous flower garden which will afford a good deal of enjoyment the first year. Of course, it will improve every subse-

quent season. To make such a garden requires zeal, and resolution, and work, but not a great deal of money. Whoever has land enough at control, can have such a garden as we have described, and a better one, if he only tries. But if he is satisfied with our general plan, and will follow it out for this Summer, we promise, (if he read the *Agriculturist* faithfully,) to give him many new hints during the year for the further embellishment of his garden next season.

Perfecting the Lawn.

The lawn is supposed to be already made: it was made last year, or several years ago. But it was finished in some haste, without full and clear knowledge of the best mode of doing the work, or of what constituted perfection in a lawn. In some places, the soil is thin and poor, and the grasses have succumbed to the hardier weeds and mosses. Tufts of coarse orchard grass and of red clover protrude here and there. In many places, the grading of the surface is imperfect, leaving abrupt elevations here, and depressions there. Dock and thistles and plantain have in some places usurped the room of the fine lawn grass and white clover.

Then, there are too many flower beds cut out in the grass. A few, at intervals along the margins of the walks might answer, but ten or a dozen in a small lawn, break it up and destroy its breadth. And then, it requires much work to keep so many beds in perfect order; and nothing less than absolute neatness can be allowed on a conspicuous lawn. Furthermore; there are too many shrubs and trees in the middle portion. The walks and carriage roads were thoroughly made, but the margins have not been nicely rounded and kept trim, as first laid out. The grading of the soil near the walks was not as well done as it might have been.

Now, we are going to begin this month by putting these things right. Those spots with meager soils must be well scarified with an iron rake; some fresh grass seed must be scattered over them, and the whole enriched with a dress-



Fig. 1.

ing of old manure. Those tufts of coarse grass and those weeds must be dug out, one by one, and—what is very important—those inequalities of the surface must be carefully remedied. To do this, the sods must be taken off both from the high and the low points. The soil must be removed from the first and spread over the last, bringing both to a perfect level with the rest of the lawn, and then the sods replaced. A day or two of labor, as may be necessary, in doing this work, will do more than any other one thing towards perfecting a lawn.

As to some of the numerous flower-beds, we will remove the plants to a less conspicuous place, and cover the patches with sods. But here, a hint or two must not be forgotten. The soil of the flower beds being quite rich, will give the turf a more rampant growth than the rest of



Fig. 2.

the lawn; therefore, let the top spit be removed, and poorer soil returned; then lay on the sods. And in choosing sods, be careful to get such as contain grasses similar to those of the lawn; else the patch-work will be unpleasantly conspicuous all Summer. Those trees and shrubs

which give the lawn a crowded appearance, may, some of them, be removed to the boundaries of the premises, or worked into groups.

Now, let us take a sharp look at our walks and roads. As originally laid out, the curves were excellent, but in some places the frost or accident has defaced the margins, and through



Fig. 3.

neglect, the grass has crept out into the gravel. These things must be rectified. The original curves must be restored by cutting out the margins neatly, re-sodding the banks where broken, and scraping the walks as clean as when first made. Here is a walk which has never been properly filled up with gravel: it has too much of a ditch-look about it, Fig. 1. It must be filled with gravel, until it presents something like the appearance shown at Fig. 2.

In the grading of the borders of walks and carriage ways, much skill and taste can be shown.



Fig. 4.

On perfectly level ground, the slope should be very slight, as in Fig. 2, with a depression at the edges of the walk of two or three inches, just enough to carry off the water from the middle of the walk. Where there is a ridge of earth near the walk, it may be graded down with a long slope, like Fig. 3, or Fig. 4. Where the walk runs through a low and damp soil, it may be raised a few inches above the surrounding soil, and the surface graded up to it, like Fig. 5.



Fig. 5.

The turf used for finishing off all these margins should be of the best kind. It should be laid by an experienced hand, and rammed down hard and smooth. The above work having been done, the whole lawn should be rolled with a heavy roller. And if it be rolled and mowed every ten days through the Summer, the labor to perfect the lawn will obviously be not in vain.

Managing Strawberries.

We now refer to only one point, viz.: whether they succeed best when kept in hills, or when allowed to cover the entire bed. In favor of the latter method, it is argued that the vines being spread over the entire surface, the foliage acts as a mulch in Summer, and a protection in Winter, thus saving the necessity of using tan-bark, sawdust, straw, or other covering. By this mode, too, it is thought the fruit is kept cleaner, and is more abundant, even if it be not so large. Then, also, and most potential of all reasons, this method saves trouble!

On the other side, it is held that to mulch a bed with growing plants, defeats its own end, for they absorb more moisture from the ground through their roots, than they preserve in it by the shade of their leaves. This is like keeping a cistern full of water by the shade of the pump, while the pump-handle is kept continually at work! As to the quality of the fruit; certainly it is worth some trouble to raise large, fine-looking berries. And even as to quantity, it is not

so certain that the massing system has the advantage. The forces of the vine are so much expended in making runners, that few fruit stems are formed. When the runners are clipped off, new stools or clusters of fruit-stems are produced around the collar of the mother plant, which bear very abundantly. On vines so managed, we have often counted twenty or more fruit-stems, with an average of ten berries on each, and they of magnificent size. Two hundred berries to a single plant, is about enough for mortal man to ask for! We doubt whether in the helter-skelter system, a larger bulk of fruit is raised on ground of the same extent. Let the reader make careful experiments this season, and make a note of them.

Impure Squash Seeds.

From all parts of the country, we hear complaints of impure seeds of the best squashes. The famous Hubbard turns out a failure, with one man; the Honolulu is little better than a half-ripe pumpkin, with another; the Boston Marrow is a cross between many sorts, with a third. This is a great annoyance. These several squashes have their distinctive excellences, and it is very desirable to keep them separate.

One way to preserve the different sorts from mixing, is to plant only one kind in a garden, and the spot should be a hundred feet or more from all other gardens. Even then, the bees will be likely to carry pollen from one to the other; a strong wind may do the same.

The only way to secure absolute purity, is, first being sure of good seed, to cover several flowers of the kind wanted, with a bell-glass, or with a bag of millinet, or in some other way prevent bees and other insects from alighting upon the blossoms. Keep them covered until the fruit is set; to secure impregnation, dust a little pollen on the center, with a camel's hair brush, from a barren bloom of the same vine. After the fruit sets, no harm can come to them.

And what is thus true of squashes, is true likewise of melons, and pumpkins. They will mix, if not protected, and if they mix, they deteriorate.

How to Transplant.

Those who have provided early plants of cabbages, tomatoes, etc., in hot-beds, cold frames, or boxes of earth, will of course transfer them to the garden or field as soon as the soil and weather will permit. A little care will save an immense loss. Before lifting the plants, it is important to thoroughly soak the ground in which they are growing. Let this be done several hours before transplanting. The greater the amount of soil that can be made to adhere to the roots in taking up, the better. Take them up only as fast as they can be set out; two hours exposure to sun or wind is often a loss of some days in the growth, if not a total loss of the plants. "No pains, no gains" here.

Most persons prefer setting at evening, and when the ground is wet by rain. We prefer a dry soil, so that it will not be packed by tramping. When the hole is made, have a pint or more of water poured in. Before the water all soaks away, the plant is set in and the hole filled up with dry earth. Most of this is wet by the water, so that the plant is surrounded with moisture, and yet the surface is left loose, and open—not packed or baked. We are certain that the trouble required is abundantly repaid, whether the number of plants be large or small. What will pay in a garden, will pay in a field.

Most cultivators, however, take up the plants, thrust them into a hole, and let them do the best they can. When this is done, the ground should be wet by rain or artificially. An implement, called a *dibble*, shown in the annexed cut, is convenient. It is made of wood—a large one is best. A simple straight pointed stick will answer. One with a handle, like our engraving, is more convenient. It may be made from an old shovel handle.



Hints on Sowing Garden Seeds.

Nature covers lightly. She scatters seed from the ripened stalk, for rains to wash into the earth, or the falling leaves to cover. The gardener often plants too deeply. Seeds which push up a large head, as squashes or Lima beans, and others with a feeble stem, like onions, parsneps, etc., can not well force their way through several inches of stiff soil, packed down by heavy rains. A covering one half inch deep is sufficient for most seeds—less than that will answer for many.

In covering, see that lumps of dirt or small stones do not take the place of fine earth. This often happens when the seed is covered by raking the drills *lengthwise*; a better way is, to pass the *back* of the rake crosswise over the drills. The old fashion of cutting up the garden into beds four to six feet wide, thus wasting a large portion of the ground in useless paths, is now nearly out of date, and very properly. A few long rows of beets, carrots, onions, etc., across the garden, are more easily worked than beds of short rows.

THE HOUSEHOLD.

Blinks from a Lantern... XXVII.



VISITS A CONTENTED FARMER'S WIFE.

I am getting to admire the moderns very much, especially the women. I find in my journeyings, that there is almost as much diversity of character among them, as with the men. This was impossible in my day, even among the Greeks, with whom literature and the fine arts were carried to the highest degree of perfection. But letters and philosophy were not for the Greek woman. She was a drudge, in the field and in the kitchen, and the same unvarying round of duties made, every where, a similar type of character. Xantippe scolded her husband, but it was only the fame of her husband that made her conspicuous. The women were all scolds and croakers in my day, and if the husbands were not universally the objects of their petty malignity, it was because all husbands had not the meekness and good temper of Socrates. The sex had then, as now, an eye to personal safety.

But Mrs. Grimes, (mentioned in the April *Agriculturist*), is by no means the type of the mod-

ern woman. She is only one of a class, numerous perhaps, but not in the majority. The blinks of my lantern have fallen upon scenes of quiet contentment, happily wedded people, cheerful domestic circles, which, had they been more common when I dwelt in the flesh, would have materially improved my temper and my destiny.

Mrs. Content Rogers was a sunny sort of a body as any one could see, by a glance at her front yard and windows. There was a honeysuckle trained upon each side of the door, a flower border running the whole length of the house, where the crocuses and snow-drops hailed the first genial days of Spring, and jonquils, pinks, violets, lilies, roses, and asters lavished their blossoms all Summer long. The fence was picketed and painted white, indicative of the tidy housewife and the clean consciences within. The windows had green blinds, but they were kept joyously opened, as if the sun and friends were both heartily welcome to the best room, where Content Rogers was the presiding genius. I have sometimes thought that these strongly marked traits of character run in the blood, and that a croaker or a jolly woman was quite as much indebted to her constitution, as to her training, for her peculiar development. Certain it is, that this woman came rightfully by her characteristic hopefulness and contentment. Her maiden name was Goodenough, her father was called Waitstill, and her mother Hope. The last child, (the twelfth by the way,) was named Content, as filling the measure of their happiness. Patience, Faith, Hope, Charity, and Temperance were cherished female names in the family, that had been handed down for many generations. By a sort of manifest destiny, which seems to be as strongly believed in by the moderns as by the ancients, she had married Constant Rogers, and settled in this neat white farm house.

Content took me for a belated beggar, as I called quite early at the door. "Poor old man, you look tired and hungry," said she, "come in and breakfast, we are just at the table."

I found Constant Rogers at the morning meal, with a goodly row of children upon each side of the table, of all ages, from two to twenty. He had been expecting me, but not quite so early in the day. The whole group was orderly, for the family was so much given to hospitality, that an unexpected guest was no novelty in the household.

"Pray how do you manage," said I, "to support so large a family by farming? They say it is a very poor business."

"Well, my wife can tell you more about that, than I can. I keep the farm going out of doors, and she keeps the family going in-doors. I never find any difficulty in keeping the grain bins and meal chest well filled, and the larder well stored, and somehow there has always been enough to eat and drink, three times a day, ever since we began housekeeping, and that is twenty two years ago this Spring."

"But who says that farming is a poor business?" asked Content with a surprised look, as if she had never taken that view of it.

"Why one of your townswomen by the name of Grimes," said I.

"Oh yes, I have seen her; she lives up in the other parish, and I haven't much acquaintance with her. But I thought the Grimeses were rich and happy. They are sending their sons to College, and their daughters go away to school. Perhaps they feel a little above their business, which always makes things go lard."

"But don't you find it hard to feed so many mouths, and to keep so many children looking tidy?" I asked.

"Well, I am *busy* most of the time," said Content, smiling, "but I never thought it *hard*. I do not know what we are to live for, if it be not to make others comfortable and happy. I have always found so many things to be thankful for, that I never have found time to fret at the little worries of life. We named our first child Thankful, and somehow a blessing has seemed to follow us ever since. We have not had to wait till Fall for a thanksgiving, for we have had one about every month in the year. Before I got over feeling glad for one thing, I always noticed that another came. When the children were sick, I always felt bad, but they were never sick long, and when they got to running round again, I forgot the past. They made us a good deal of care when they were small, but they save us a great many steps already, and will save us a great many more, as we need their services. It is a great comfort, sir, to have good children, and ours are the best in the world."

"But does farming *pay*?" I inquired.

"That depends upon what you mean by paying," she continued. "It pays us abundantly. We are happy in our work, and have no longing for the pleasures which others enjoy. If a man is only contented, I suppose it makes very little difference whether he have a thousand or a million of dollars. We have a snug, comfortable house, all paid for, and our worldly substance is increasing every year—I suppose we enjoy it as much as a king enjoys his palace and kingdom. We are able to have a good variety of books and papers for ourselves and the children to read, so that we are learning something every day. I suppose we enjoy them quite as much as if we had nothing else to do but to read them. Our children are, in a fair way to make useful men and women. The children of the richest men will not make anything more, and many of them will fail of this."

"If our business makes us happy, we think it pays us quite as well as any business that does not make those happy who follow it, even though it gives them more money. But farming pays well enough in money, i. e., in worldly comfort. Our means grow with our wants, and what can any reasonable being ask more? The farm has grown larger, the soil deeper and richer, the cattle have increased, and grown sleek and handsome, the pile of milk pans is higher and brighter, father says, since Thankful was old enough to scour them. The garden is full of fruits and vegetables, and the grain bins are never empty."

I left, fully persuaded that Content Rogers had found the philosopher's stone, if I had not found a farmer's wife.

Troublesome House Insects.

As warm weather comes on, innumerable insects will wake from their winter nap, or emerge from the larva state, to enjoy their life at the expense of our comfort. The buzz of the fly will be answered by the tiny horn of the mosquito, the flea will skip nimbly over the floor, and the moth and chinch will stealthily hide in the carpet or the bedstead. Scrupulous cleanliness will thwart most of them. Flies are nature's scavengers, ever ready to convert putrefying matter into innocuous substances. Keep the yard free from decaying vegetables, refuse from the kitchen, and the drain of the

siuk, and sweeten the out-buildings with lime, and they will mostly emigrate to more promising quarters. The few stragglers which remain, can be nearly excluded by frames covered with millinet, placed in the windows when open. These will also keep out the vexatious mosquito. Myriads of these latter insects are often bred in swampy spots adjoining the dwelling. Proper draining will rout them at head quarters. The rain water cistern is also prolific in mosquitoes: place a few lively minnows or other brook fish there, and they will fatten on the larvæ of the tormenting insect—thus the biter will be bitten.

The flea delights in the dust and litter of the wood house, and the wagon shed. Remove all this, sprinkle fresh lime in its place, and white-wash the beams and boards, and the fleas will soon vanish.

Take up all the carpets, beat them thoroughly with a slender rod, and scatter a little black pepper around the sides of the room where the edges of the carpet are to be laid. Then, once a fortnight, whip the outside breadths upon the floor with a light switch, and the remaining moths will be beaten out.

The chinch or bed bug can be routed, by first washing all the parts of the bedstead with cold water, and then, with a brush, applying corrosive sublimate dissolved in spirits, or an amalgam of lard and quicksilver rubbed together. Or ask your druggist for sixpence worth of unguentum, mix it with lamp oil, and apply it with a brush to all joints and crevices, and the bugs will sleep and allow you to do the same.

For the American Agriculturist.

My Fresh Water Aquarium.

(The following details of experience by Mr. West, one of the editors of the Commercial Advertiser, of this City, will furnish many useful hints, and we thank the writer for his interesting account. This subject will be found discussed at length, with several illustrations, in Volume XVII, (Nov. No.), pages 256, 257.—Ed.)

About four years ago I commenced keeping a fresh water Aquarium. To this day it is to me an unfailing source of amusement and instruction. I began, as any reader of the *American Agriculturist* may begin, with an ordinary gold-fish globe, making at the bottom a bed of pebbles and coarse sand, first well washed. In this I set aquatic plants, then filled the globe with pure water to within about eight inches of the top, and allowed it to stand for four days in a moderate light. By that time the continuous ascent, at midday, of minute globules of air, (gas,) told me that the plants were performing their important and necessary function, that of supplying the oxygen required to keep the water pure, and to sustain animal life. I then put in my animals, committing the error, however, which nearly every one makes when first undertaking the management of an aquarium—I overstocked it with animals. When this error is avoided, there is really no difficulty in keeping the animals alive and healthy, and the water perfectly clear and living. But the temptation to err is strong, and the error is always fatal to success. For an ordinary gold fish globe, well supplied with plants, three or four small fish, a couple of newts, and a few specimens of the lower orders of animal life, are all that can be preserved in health. The globe must not be placed where the sun's rays will fall upon it, as it acts as a lens, soon heating the water to a high temperature. My experiment was so successful, that I soon manufactured a fair sized tank. These can now be bought so cheap, and so much

more perfect and elegant than any a novice can construct, that I need not relate my experience.

I have now had, for a couple of years, a fresh water aquarium capable of holding about twenty gallons. The sides are of thick plate glass, the bottom and ends of slate. I prefer this for a fresh water tank, as a fine green velvet-like moss forms on the inside of the slate ends, which is exceedingly beautiful, and with that formed upon the rocks and pebbles, supplies a considerable quantity of oxygen. The water has remained perfectly clear for six months without changing or renewing, and was then renewed only because I desired to change the location of the tank. It has contained for months, all in perfect health, about sixty animals, including dace, sticklebacks, rockfish, minnows, gold and silver fish (small sunfish,) also small catfish, suckers, eels, crayfish, fresh water muskels, tritons, tadpoles, caddis worms, a turtle, snails, beetles, etc. In the center is a small pile of rocks, the topmost having a broad surface and rising above the water, for the convenience of the turtle, tritons and crayfish, which prefer occasionally to leave the water and lie for awhile upon the rock. Under my daily observation, tadpoles have undergone their various changes, until as perfect frogs they have first squatted awhile upon the rock, then leaped over the side of the tank and taken French leave of their long-time jailer. I have watched the triton shed his skin and eat it, and the female tie up her eggs in a knot of leaves of plants; the dace and minnow clear themselves of parasites by rolling in the sand, and the gold fish amuse himself by drawing in a mouthful and meditatively ejecting it as a "human" the smoke of his cigar; I have seen the caddis worm encase himself in his curious tube of variegated leaves, but though I have watched him closely, I never could find out how he cut the pieces so neatly, and joined them so securely; the crayfish has dug a cave for himself, lifting pebbles much heavier than his own body, and built with them a wall around the mouth of his den, and I have observed other curious facts in natural history, which I had never known but for my aquarium.

The habits of aquatic plants are scarcely less curious than those of aquatic animals. But upon this I may not dwell. The most useful and beautiful plants for an aquarium, among those easily procured, are the common pond weed, (*potamogeton*), hornwort, (*zannichellia*), and starwort, (*callitriche*). Vallisneria (eel-grass), is excellent for the purpose, but can be obtained only in certain localities. I have never found pond lilies to thrive well in the tank, and if they did, I suspect they would be ornamental rather than useful. Probably they might grow if a bed of earth were used, but that is unnecessary for all other aquatic plants, and it always endangers the clearness of the water. When green matter forms upon the glass, it should be rubbed off daily or every second day, with a piece of muslin or sponge on the end of a stick. If left too long, it hardens beyond easy removal. I have propagated hornwort in the tank, leaving the seeds floating there all Winter. Any aquatic plant will answer; those growing in comparatively still water and entirely submerged, generally thrive best. If the water is never disturbed, the moss will grow naturally upon the rocks and pebbles and become a substitute for, or a powerful aid to the plants. R. A. WEST.
Staten Island, N. Y.

To HOOP A FIRKIN, pail, tub or barrel, when no iron bands or wooden hoops are conve-

nient, pass an iron wire twice around and twist the ends to make them hold. It may be driven or tightened like an ordinary hoop. We have often found it quite convenient.

For the American Agriculturist.

How to Cook Pork.

BY MRS. E. F. HASKELL.

I once thought there was no art in cooking pork, as it made little difference how it was prepared—pork being pork, and nothing more; but this I have found a great error. For a long time I cut pork too thick, parboiled it several minutes, and cooked it quickly over a hot fire. I have learned that it is better to cut it as thin as possible, and gash the rind fine. If to be fried, let it steep in clean soft water, milk warm, for some time. If fresh soft water can not be had, use "hard" water, with a little soda dissolved in it, and just before frying the meat, heat it to boiling heat. If to broil, either steep the slices a long time, or, what is better, dip it several times while broiling in warm water. Pork needs rather slow frying, or broiling. If the fire be too strong, it curls the slices immediately, and they cook unequally. After the pork is nicely fried, set it in the stove oven to keep warm, while the gravy is being prepared as follows:

First pour out all the fat, wash the spider free from sediment, and put in it the milk wanted for the gravy. When this is boiling, add a little flour stirred in cold milk, say a teaspoonful to a pint of milk, and salt to suit the taste. After the flour is stirred in, add spoonful by spoonful, as much pork fat as will unite with the milk, without rising to the surface; if it stands on the top, it is too rich. When finished, the gravy should be as thick as good morning's cream. When cream is used, no flour is needed, and but very little of the fat. For an excellent addition, toast stale bread, dip it in the gravy, lay on each slice a bit of pork, and pour the gravy over it; it is very nice with baked potatoes. Sometimes we make a batter, and when pork is well fried dip it, and fry quickly.

Plain fried pork may also be varied by dipping it after being thoroughly cooked, in flour, and browning. Sometimes we chop the pork, and stir eggs with it after it is quite fried, in this case most of the fat should be poured off before adding the eggs.

Pork Hash is made thus: Boil salt pork until tender. When cold chop it fine, and mix five parts cold chopped potatoes with one of pork, and season to the taste. Grease the spider with pork fat, and fry brown, or make it in thin, flat pats, or cakes, and brown them on the griddle.

Apples fried brown in fat after the pork is cooked moderately, are good. Tart apples are the best; sweet are tasteless, and sour ones cook so quickly as to become a mash. Do not peel the apples but remove the cores with a round piece of tin formed into a tube, before cutting them. We are particular to have the slices round, so as to be held together by the peel. With this dish, fried potatoes are almost essential. Thus one may manage to vary the bill of fare considerably with only the pork barrel to market from.

Puff Omelet.

Contributed to the *American Agriculturist*, by Mrs. E. F. Haskell. This is very superior, as well as beautiful. Beat the yolks of six eggs light, and mix them in a small teacup of milk; add a little salt. Beat together a tablespoonful

of sweet butter, with the same quantity of flour, until smooth; add the mixture to the custard, and beat the whole well together. Pour it into a buttered omelet, or a small frying pan, and when it appears to thicken, pour over it the whites, beaten stiff; dust over it a *trifle* of salt, and when the whole is stiff, remove it carefully to the dish, without breaking.

Steamed Eggs.

Butter a plate and break the eggs upon it and season with butter, salt, and pepper. Place them in a steamer, and cook a longer or shorter time according to individual taste. This is a good dish for an invalid, if not cooked too hard.

Apple Pie Dumpling.

Contributed to the *American Agriculturist*, by "Louise," Luzerne Co., Pa.—Take a large teacupful of sweet cream, and one of sour, with half a teaspoonful of saleratus. Stir in flour sufficient for a very thick batter, much thicker than for cakes. Pare and slice tart apples. Spread the batter to the thickness of half an inch, in a common pie plate. Now put in the apples and cover them entirely with the batter. Bake until light and brown. Serve with cream and sugar, butter and sugar, or any sauce preferred. The writer thinks them better, and they are certainly more easily made than the old-fashioned lead coated, boiled dumplings.

Palatable Castor Oil.

Mrs. P. J. B., writes that the nauseous taste of castor oil may be removed by boiling it with twice the quantity of milk, and sweetening it with sugar. It is to be given when cool.

Hiring a Girl.

Some, at least, of our housekeeping readers will enjoy the following, which we find in the *Hartford Homestead*: A lady who wished to hire a "maid of all work," was called into the parlor to see an applicant.

Biddy, (seated on the sofa).—"I hear yez want a girl."

Lady.—"Yes."

Biddy.—"Have yez hot and cold wather carried convancantly all over the house?"

Lady, (still standing).—"Yes."

Biddy.—"Is there gas in the kitchen?"

Lady.—"Yes."

Biddy.—"Carpets on the girl's room?"

Lady.—"Yes."

Biddy.—"Do you have a man to make the fires, and black shoes?"

Lady.—"No. The girl makes her own fires."

Biddy.—"That's too bad. But I likes yez and yer house other ways, and the kitchen looks convanient, so I think I'll come. I'll be expecting \$9 a month, as I niver works for less."

Lady.—"But I want to ask you one question. Can you play on the piano?"

Biddy.—"Shure, no mam."

Lady.—"Then I'm sure you will not do for me."

A Washing Table.

O. Brooks, Lee Co., Iowa, advises to lay aside the old "wash bench" made of a slab with rough legs, and as a substitute make a table, (black walnut is best,) about 20 inches wide, 3 feet 8 inches or 4 feet long, high to suit the washer, and put castors on the legs. This can, with ease, be rolled to and from the boiler, and to the sink, where the tub can be tipped over, thereby avoiding much hard lifting; upon weary washing day.



"HAPPY AS A KING."—FROM A PAINTING BY WALTER GOODALL.
(Engraved for the American Agriculturist.)

The Editor with his Young Readers.

Happy as a King.

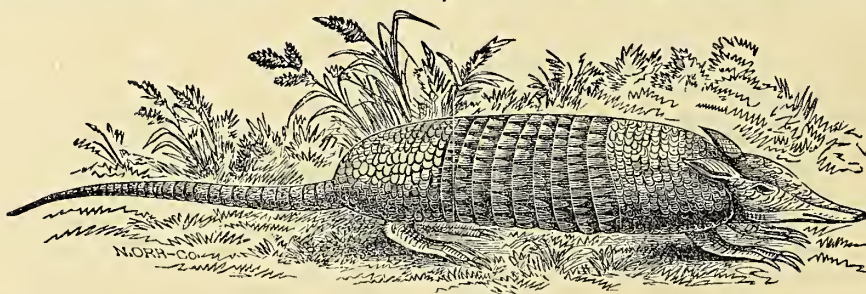
Ah! little lads and lasses, kings and queens in their coaches might well envy you the happiness of your glorious ride on the old farm gate. All the splendid carriages, and prancing horses with gilt harness, the richly clad servants, the brilliant uniforms of soldiers, the jewels, and other magnificent show which kings possess, what are these compared with the glorious woods, the waving grass, the beautiful flowers, the bright blue sky, and the joys of youth?—Do our young readers remember what the Great Teacher said about Solomon in all his glory? A single lily of the field is decked with greater splendor than the richest king could boast. But even if one could dress himself as finely as the choicest flower, that alone could not make him happy. The little son of the Emperor Napoleon was one day observed to leave all his costly playthings and stand by the window, thoughtful and sad. Some one asked him "Why are you unhappy, what are you thinking of?" "Oh!" he replied, "if you will only take all my playthings, and let me run out and play with the boys there, I shall be so happy." The children he envied were busy around a puddle, *making dirt pies!* while he must be kept like a bird in a gilt cage, because he was son of the Emperor. So you perceive that something more than what money can buy, is needed to give pleasure.—Happiness depends more on what is *in* us, than on what is *around* us. Health, activity, a quiet conscience, and contentment with one's lot, will bring joy in almost any place. The children in the picture are not rich, as you can see by their tattered clothing and bare feet, but they are full of life, they have no anxiety for the future, and it is a pleasure to look at them. Even the little one who has caught a fall, is too happy to mind it, and the very dog enters into the spirit of the frolic. The old gate is strong and able to bear them, and they do not appear like children who are doing a forbidden act, by swinging upon it. That would spoil all their enjoyment. We think the artist might well change the title of the picture, so as to read, "Happier than any King."

"I Didn't Think."

So said George, when his father reproved him for neglect. He had been sent to drive the cows to a new pasture. The field next to the pasture was planted with corn, and George's father had given him particular directions to see that the bars were put up between the two fields, so that the cattle could not pass through and destroy the corn. But

on his way there he was thinking more of frolicking with his dog, than of doing his errand, and just as he had turned the cows into the lot, a red squirrel came running along the fence, and away went the boy and dog, in pursuit. They had quite an exciting race to an adjoining wood, where the squirrel sprang up into a tall hemlock tree, and was soon out of sight. By this time George had forgotten all about putting up the bars; and having nothing else to do, he went down to the brook that ran through the woods and played for an hour or more before returning home. He had been there but a short time when a neighbor, who had just passed the corn-field, came in to say that the cows were there doing much damage. Then George started and ran as quickly as possible to drive them out, but they had already destroyed more corn than he could have paid for by working a month. When his father reprimanded him severely, he replied "I didn't think."

His father perceived that George endeavored to excuse himself on the plea of a poor memory, and resolved to teach him the lesson, that it was his duty to *think*—particularly when entrusted with a



charge. The next day he visited the city, and George, who had long had the promise of a gun with which to shoot crows and squirrels from the corn-field, begged him to get it then. On his return at night, George's first question was, "Have you bought the gun, father?" "Oh, I don't think," was the reply. Poor George was greatly disappointed, but his father had said the words in such a way, that he saw what was meant, and he felt the reproof keenly, for he knew he deserved it. The following morning, he went to his father, when he was alone, and said softly, "Father, I will *think*, hereafter," "I trust you will," was the reply—"but since you have learned the lesson I intended, I will now finish what I commenced saying last night. I broke off in the middle of the sentence, to set you to thinking. The whole answer to your question whether I bought the gun, is, I didn't think best to give it

to you, until you could give better heed to your duty; you will find the gun in my bed-room." George used often to say afterward, that every time he fired the gun, it seemed to say to him, "Think."

Speak Gently.

A loud boisterous tone shows a want of good breeding. The first principle of politeness is to make those about you feel pleasant, and a rude coarse manner of speaking is annoying to most persons. A good anecdote is related of a man, who went by the name of "Whispering John," which was given to him in ridicule. People said he talked as though he were brought up in a mill. One cold morning he walked into a public house, and called out in his usual thundering voice:

"Good morning, laudlord, how are you?"

"Very well, how do you do?"

"Oh, I'm well, but I'm so cold, I can hardly talk."

Just then a nervous traveler who was present, ran up to the landlord, exclaiming: "Please have my horse brought as soon as possible."

"Why, what is the matter?" asked the landlord.

"Nothing," replied the traveler, "only I want to get away before that man *thaws*."

An amusing Dog Lawsuit.

Our young readers have probably all heard of the famous lawsuit about the cracked kettle, in which the defendant's lawyer claimed: 1. That his client never had the kettle. 2. That it was cracked when he borrowed it; and 3. That it was whole when he returned it. The Ladies' Repository gives a still stronger case: A fat old gentleman was bitten in the calf of his leg by a dog. He rushed to a Justice of the Peace, and sued a man whom he supposed to be the owner of the offending cur. The defendant, who was somewhat of a wag, offered the following defence: 1. By testimony in favor of the general good character of my dog, I shall prove that nothing could make him so forgetful of his canine dignity as to bite a *calf*. 2. He is blind, and can not see to bite. 3. Even if he could see to bite, it would be utterly impossible for him to go out of his way to do so, on account of his severe lameness. 4. Granting his eyes to be good, he has no teeth. 5. My dog died six weeks ago. 6. I never had a dog.

The Armadillo.

During the travels of our friend, Mr. A. O. Moore, in Central America, he obtained the skin or shell of one of these singular animals, which he kindly presented to the office of the *American Agriculturist*. It has been stuffed and placed on exhibition in our window, where it attracts no little attention. In

shape the Armadillo resembles a pig with a long body, short legs and a long tail. The picture above, which we have sketched from him, is a fair likeness. He is covered, except a little of the underside, with a complete coat of mail, composed of horny scales overlapping each other like the shingles on a roof. These are united so as to form three complete bucklers. The two bucklers covering the body, are connected together at the loins of the animal, by movable plates made of the same horny material. This enables him to move about freely. The head is covered with a separate buckler.

The arrangement of the armor so nearly resembles that which was worn by soldiers before the invention of gunpowder, that one would suppose men had obtained their pattern for it from the armadillo, were it not that the creature is not an inhabitant of countries where such armor was worn.

He is furnished with sharp strong claws, with which he makes his underground burrow, like the fox, or woodchuck. It is said he can dig so rapidly as to hide himself when pursued, if he have but a little the start. He lives on worms, ants, and flesh of dead animals which he may find. He has no front teeth, and his back teeth are so separated that when the jaws are closed, they fit together like the teeth of a steel trap. He is perfectly harmless, and never even attempts defence when attacked, but tries to escape by running or digging. He is very useful in destroying ants. Being protected from their bites by his armor, he digs boldly into the side of their hills, and makes such havoc that they soon disappear from the neighborhood where he lives.

A Knowing Dog.

A correspondent of the *American Agriculturist* at Union Springs, Ind., relates a "tough story" of a dog at that place. A large number of sheep had been killed in the neighborhood, and an apparently worthless cur, kept at a grocery, was suspected of the crime, though for a long time no proof could be brought against him. But "murder will out," and one day a farmer and his neighbor saw the dog besmeared with blood, in the act of tearing a sheep, which was still alive. As soon as the dog saw he was discovered, he ran to a wood lot about fifty rods north of the spot, and the men at once proceeded to the grocery, which stood half a mile distant in a south-west direction, to inform the owner. To their surprise, on entering the store, they saw there the very animal they had come to complain of, lying on the floor, apparently asleep, as though nothing had happened, and as clean as though just washed. But on examination they found him very warm, and very wet, he having undoubtedly washed himself in a hurry, and run for life to his master. But the evidence was too strong against him. Pity that a dog of such intelligence could not have met a better fate.

Look before you run—Snakes.

When you hear a strange noise, or see some unexpected object, make it a rule to find out what it is, instead of giving way to fear and running as if for life. All sorts of "ghost" stories have started from the silly fright of some coward who had not the courage to examine the cause of his fear. A ludicrous anecdote is related of a man who was mortally afraid of snakes. He had moved into a new country where these reptiles were rather plenty, and for a long time he would scarcely venture into his fields. One fine day he went to examine some oats that were nearly ripe, and took with him an old scythe snath, which he carried over his shoulder, to have it ready for defence if he should meet a snake. Presently, on casting a glance behind him, there appeared a monstrous black snake winding after him. One look was enough, and away he ran, dodging and bounding through the oats, the snake after him, until he was almost dead with fear. As he climbed the fence on the opposite side of the field, he discovered that the supposed snake was only the shadow of his scythe snath. One careful look would have saved him all his fright.

Rocking Babies to Sleep—A little Girl Out-argues the Editor.

A little girl in Sheboygan Co., Wis., Mimmie B. by name, writes us a little letter on a little sheet, which proves to be a large-hearted letter, and one which takes us quite aback. Her father receives the *Agriculturist*, and she forwards us a dollar from their German girl, who wishes the German edition sent to her father. Mimmie asks as a premium the "Farm of four Acres," or any other book suitable for a little girl of her age (8 years old). So much for the business part—but here is the part of the letter which troubles us. Referring to the article on page 53, Feb. No., in which we advised not to rock babies to sleep, she says: "I do not think you would let a little baby lie and cry all day, if you had one as sweet as ours. He has curly hair, blue eyes, and rosy lips, and will kiss me so sweetly. You don't know what a nice time I have rocking him to sleep; he will nestle down his head beside

me so prettily. Do you think, he ought to cry himself to sleep, when he looks so pretty? Besides, we have no place that he will stay. If we put him in the bed, he will roll off; and if we put him in the crib, he will climb up on the sides, and tumble out. I like the *Agriculturist* very much, but do not like to have little babies abused. Do you not want babies to have any friends, that makes you put them on the bed alone?—I prayed every day for most two years, for God to send me a little brother, and He has sent him; do you think He will be pleased, if I do not love him, and take good care of him? I am afraid, if we treat babies so, that they will not treat us well, when they are grown up. Please tell me, what I shall do."—Well, Mimmie, we can't answer you. Perhaps you are right; but after all, we think the little ones will be just as happy, and love us just as much, if we let them learn to go to sleep without rocking. Swinging them in the cradle or in the arms, disturbs the circulation of the blood—makes it go the wrong way—and although this produces a kind of dizziness that makes them sleepy, it is not good for the brain. Love your little brother by all means, and make him as happy as you can, but do not teach him to lie awake until put to sleep by being made dizzy, for though it may make him happy, it is almost as bad as to make him happy with laudanum. We have more than one sweet little one—as sweet as yours, Mimmie, we think—but we would not give them any laudanum, nor let any one have a cradle to swing or shake them to sleep in.

Uncle John's Study.....V.

BY RALEIGH TRUMAN.

MR. EDITOR.—I was quite well satisfied that you should leave out from the April No. the report of what Uncle John told us about the "Magic Plate," in order to make room for that beautiful song. If I could only set my remarks to music, I am sure they would be more acceptable; for singing is to words, what sugar is in cooking, it makes almost any thing good to take. But I must pass to the explanation of the working of the magic plate, a description of which was published in the March *Agriculturist*, page 89.

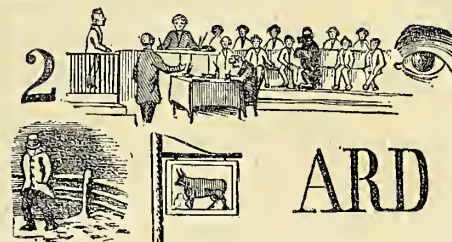
Uncle John told us at first, that sight is the effect of light on the eye. We do not know exactly what light is; but we know something of what it can do, and of the ways in which it operates. Thus it is certain that it is reflected from objects to the eye, where it passes through the transparent parts of that organ, and strikes upon the nerves which are spread over its inner and back part, and which form what is called the retina. These nerves, which resemble fine threads, all unite into one larger thread, called the optic nerve, which passes from the eye to the brain. When light affects the retina, the sensation is carried by this nerve directly to the brain, or thinking organ, and the mind perceives the object from which the light was reflected; that is, we see the object. Now, an impression made by light on the nerve, remains a short time, usually a tenth of a second, so that we appear to see an object for that length of time, even after it has been removed, or the eye has been closed. For this reason there is no interruption of sight when a person winks; the eyelid falls and rises quickly, in less than the tenth of a second, and the impression received from an object, continues unchanged. You know that when a coal of fire is whirled round rapidly, it appears to make a ring of light—this is because the fire returns to every part of the circle in less than about the tenth of a second, and before the impression which was made on the eye at any one point, has passed away.

If we were looking at a figure, and it were possible to snatch it away, and put in its place a similar figure, but with its position changed, and this were done in less than a tenth of a second, the last impression would be so mingled with the first, that the mind could not separate them, and it would look as if the figure had of itself moved from one position to the other. This is done with the magic plate. (See page 89, March No.) When the card is twirled rapidly before the looking glass, the

figures are seen one after the other, each succeeding one in a slightly different position from the one before it, so quickly that the impressions from the different objects form one continuous impression, and thus the boy appears to rise over the head of his companion, as though playing at leap frog. Uncle John told us many other interesting facts about seeing, and also about the other senses, but I must not take up too much of your space, and will therefore write no more at present.

New Problems.

No. 8. *Illustrated Rebus*.—It contains a sentiment well worth remembering, and which will be likely to make an impression from the difficulty of reading it. Don't give up easily—it is somewhat difficult.



No. 9.—*Arithmetical Question*.—This is not new, but it may puzzle some who have not seen it before. A man buys a pair of three-dollar boots, and hands the shoemaker a ten dollar bill. Not having change, the shoemaker takes the bill to a neighbor, gets ten one dollar bills for it, and gives the purchaser seven of them, with the boots. The next day the ten dollar bill is returned, being counterfeited, and the shoemaker has to pay for it in good money. How much does he lose by the transaction?

No. 10. *Anagrams*, from Aunt Sue's "Complete Puzzler."

I get dinners.	I attend in poms.
Ten coons in tar.	Find lies.
Tom's nine hats.	Sin is content.

The letters of each short sentence, if rightly placed, compose a single word. To make out the words, write each letter on a separate slip of paper, and then try to arrange them properly.

No. 11.—*Enigma*.—By George D. B. Kirk, Beaver Co., Pa. A scripture proper name of 17 letters, representing the darkest shade of iniquity:

My 1, 14, 8, 16, 4, 10, is not yet, but will be universally known.

My 4, 11, 3, 13, 5, 12, 7, an ancient city.

My 7, 12, 10, 5, 15, 7, was a person noted for great moral courage.

My 17, 13, 7, is the most important farm animal.

My 12, 9, 17, is essential to successful warfare.

My 10, 2, 6, 17, represent the Humbug "prizes" of the present day.

Answers to Problems.

The list of names is unusually small this month as we expected; for the Illustrated Rebus, No. 8, was very difficult. Only three, viz. A. C. Siewers, C. L. Siewers, and John G. Forrest have come near it, up to April 18th. The first two omitted but one word. Try again, boys and girls; we will give you more time before publishing the solution.

The following sent in correct answers to previous problems, too late to publish their names in April.

J. B. Andrews, 6; Theodore R. Smith, 5; Emmie and Ellie, 5; Samuel Fleming, 5; H. R. Bishoff, 6; P. Worth, 5; Susan Hart, 5, 6; J. L. Cambridge, 5; W. W. W., 5; Annie E. Littell, 5; (Other answers quite philosophical;) Mary C. Dean, 5; C. L. Siewers, 6.

The Simple Secret.

Twenty clerks in a store; twenty hands in a printing office; twenty young men in a village. All want to get along in the world, and all expect to do so. One of the clerks will rise to be a partner and make a fortune. One of the compositors will own a newspaper and become an influential and prosperous citizen. One of the apprentices will become a master-builder. One of the villagers will get a handsome farm, and live like a patriarch. But which is destined to be the lucky individual? Lucky? There is no luck about it. The thing is almost as certain as the Rule of Three. The young fellow who will distance his competitors is he who masters his business, who preserves

this integrity, who lives cleanly and purely, who never gets in debt, who gains friends by deserving them, and puts his money into a savings bank. There are some ways to fortune that look shorter than this old dusty highway. But the staunch men of the community, the men who achieve something really worth having, good fortune, good name, and a serene old age, all go this road.

MODEL MANNER OF SETTLING A LARGE ESTATE.—Seth Thomas, of Hallow, Connecticut, left at the time of his decease, eighteen months ago, property worth from \$400,000 to \$600,000, and six children, who were his heirs. There was no will, and the estate descended in the legal manner to the children equally. They consulted no lawyers, began no scramble, but mutually agreed upon two judicious men, and employed them to divide the property into six portions as nearly equal in value as could be. This done, the portions were put up at auction among them, each buying a portion, and the premiums again were equally divided. In this way the lawyers got no fee, the community no scandal, the peace of the family circle was preserved, and an end arrived at, which gratifies every pure sentiment.

TO CURE A FIT OF ENNUI.—Go into the attic and look over all the old rubbish. You will be sure to find something interesting and something to do.

GOOD FOR THE BLUES.—Go and see the poorest and sickest families within your knowledge.

WHAT TO DO IN A FIT OF THE SULKS.—Think over all the kindnesses you have received, and the manner in which you have repaid them.

TO MAKE CHILDREN MIND.—First consider them as children and not as old folks. Second, never command them to do anything unreasonable.

A Physician at Cincinnati, had for some time been annoyed by depredators who drank up the milk left at his door, at an early hour. One day recently, he put an emetide in the pitcher, and soon after the milkman had passed, the doctor found a policeman in a neighboring alley, "making his returns."

"Don't cry, little boy. Did he hit you on purpose?"
"No sir—he hit me on the head."

Why is a room full of married people empty? Because there is not a single person present.

Value the friendship of him who stands by you in the storm; swarms of insects will surround you in sunshine.

A sermon in four words on the vanity of earthly possessions: "Shrouds have no pockets."

"Pete, how does your father hammer his sheep, to prevent them from jumping over the fences?" "Oh! that's easy enough; he just cuts a hole through one hind leg, and sticks the other one through it, and then puts the fore legs through that for a pin."

At a late trial, the defendant, who was not familiar with the number of words which the law employs to make a trifling charge, after listening awhile to the reading of the indictment, jumped up and said: "Them 'ere allegations are false, and that ere alligator knows it."

STANDING PREMIUMS

For 1861. Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand things, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once. Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$45 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better. The machines will be selected new at the manufactory, be well boxed, and forwarded with

out expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of fifteen large volumes of 700 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of *Willcox & Gibbs' \$35 Sewing Machines*, including a set of *Hemmers*. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each,) will entitle the person getting up the club to one of the New \$10 Wringing Machines, described on page 247 of the August *Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the August *Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. [If preferred, the best \$8 Subsoil Plow (two-horse) will be given.]

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post-paid. 20 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cents each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce which we pay.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each, (or 125 at \$1 each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with

the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to *Geo. A. Prince & Co., Buffalo, N. Y.*, for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or 105 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or 90 at \$1 each), will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$45 Melodeons* (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) to the amount of 12½ cents for each name forwarded at 80 cents, (or 32½ cents for each name sent at \$1,) and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Seeds for Free Distribution in 1861.

POSTAGE REDUCED.

We have yet on hand moderate supplies of the seeds named in the revised list below; any subscribers not having already received seeds, can still select four or five parcels. Owing to the reduction of the postage on seeds and cuttings, from six cents, to one cent per ounce, when under 1,500 miles, and two cents per ounce when over 1,500 miles, we have changed the mode of estimating postage.

Subscribers, therefore, who send for seeds hereafter, will furnish envelopes really directed to themselves, and put on a separate slip of paper (inside the envelope) the numbers referring to such seeds in the catalogue below, as they may desire to receive. Also enclose a one-cent postage stamp for each ounce or under of seed required, if under 1,500 miles, and two cents if to go over 1,500 miles. (Most places west of the Mississippi River are over 1,500 miles from New-York.)

Put no figures or other marks on the envelopes, except your address, or it will be subject to letter postage. Enclose the list of seeds and the stamps carefully, so that they will not fall out of the directed envelope.

[Descriptive Notes upon the following seeds are given on pages 3, 4, and 5, of January number.]

Field Seeds.

No.	Imported Giant Wheat.	Weight of package
140	—Improved King Philip Corn.	One-quarter ounce
2	—Napoleon Pea.	One-half ounce.
3	—Stowell's Sweet Corn.	One-half ounce.
141	—Darling's Early Sweet Corn.	One-half ounce.
142	—Yellow Stone Turnip.	One-quarter ounce
143	—Walter's Ellipse Turnip.	One-quarter ounce
98	—Long Red Mangel Wurzel.	One-half ounce.
101	—Improved Long Orange Carrot.	One quarter ounce

Vegetable or Garden Seeds.

8	—Daniel O'Rourke Pea.	One-half ounce.
4	—Champion of England Pea.	One-half ounce.
58	—Napoleon Pea.	One-half ounce.
130	—Great Eastern Pea.	One-half ounce.
12	—Green Kohl Rabi.	One-fifth ounce.
13	—Enfield Market Cabbage.	One-fifth ounce.
145	—Flat Dutch (Winter) Cabbage.	One-fifth ounce.
146	—Early Battersea Cabbage.	One-fifth ounce.
147	—Neapolitan Cabbage Lettuce.	One-fifth ounce.
148	—Long dark Hood Beet.	One-fifth ounce.
149	—Extra early Bassano Beet.	One-fifth ounce.
74	—Solid White Celery.	One-fifth ounce.
151	—Yellow Danvers Onion.	One-fifth ounce.
95	—True Hubbard Squash.	One-fifth ounce.
152	—Fine large Cheese Pumpkin.	One-fifth ounce.
153	—Large Red Tomato.	One-fifth ounce.
154	—Ice-cream Water Melon.	One-fifth ounce.
76	—Skillman's Netted Musk Melon.	One-fifth ounce.
103	—Sage.	One-fifth ounce.
155	—Long Cayenne Pepper.	One-fifth ounce.
156	—Summer Savory.	One-fifth ounce.
17	—Red Strap-Leaf Turnip.	One-half ounce.
71	—Long White French Turnip.	One-half ounce.
107	—Giant Asparagus.	One-quarter ounce.

Flower, Fruit, and Ornamental Seeds.

89	—Cotton Plant (2 kinds, mixed).	One-half ounce.
111	—Castor Oil Bean (Ornamental).	One-fifth ounce.

On an average any five of the following varieties will go under a 1-cent stamp.

23	—Mignonette, (a.)	166	—Lobelia gracilis, (a.)
25	—Mixed Nasturtium, (a.)	167	—Malope Grandiflora, (a.)
30	—Tassel Flower, (a.)	169	—Clarkia pulchella, (a.)
31	—Chinese Pink, (a.)	170	—Evening primrose, (b.)
33	—Cypress Vine, (a.)	172	—Lunaria biennis, (b.)
42	—Foxglove, (b.)	173	—Mixed branching Larkspur, (a.)
43	—Candytuft, (a.)	175	—Mixed Salpiglossis, (a.)
87	—Coronilla, (a.)	177	—Ornamental Grass, (a.)
122	—Mixed Canterbury Bells, (b.)	178	—Lathyrus latifolius, (a.)
123	—Gilia nivalis, (a.)	180	—Centauria Americana, (a.)
124	—Whitavia, (a.)	182	—Sweet Alyssum, (a.)
126	—Long-tubed Centaurea, (a.)	183	—Mixed French and German Asters, (a.)
164	—Sweet Ageratum, (a.)		

a, annual—b, biennial—p, perennial.

Business Notices.

Eighty Cents a Line of space.



AT REDUCED PRICES,

with Glass-Cloth Presser, Improved Loop-Check, New Style Hemmer, Binder, Corder, etc.

OFFICE No. 505 BROADWAY, NEW-YORK.

"This Machine makes the 'LOCK-STITCH,' and ranks highest, on account of elasticity, permanence, beauty, and general desirableness of the stitching when done, and the wide range of its application."—Report of American Institute, New-York.

ITALIAN BEES.

Orders will now be received for these bees to be delivered at once. A circular will be sent to all applicants enclosing a stamp. In it will be found the terms, and also reports from Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Balbridge, and others, testifying fully, from actual observation, to the great superiority of this race over the common bee. S. B. PARSONS, Flushing, N. Y.

Stuartia Pentagynia.

PARSONS & CO. have a good stock of this fine plant, noticed and illustrated in the *American Agriculturist* for February. Price 75 cents each, six dollars per dozen Address Flushing N. Y.

THE SUREST WAY

To Secure the Very Best and at the Lowest Price,

is to order **any thing you want** through the Purchasing Agency of H. B. LANE. (See full particulars in advertisement on page 137, and note the guarantee of several of the leading men of New-York.) This Agency is established at the request of many individuals who desire some reliable person to save them from imposition and deception in the purchase of

TREES, PLANTS, PURE SEEDS, PURE GUANO, and other FERTILIZERS, GOOD IMPLEMENTS, etc., etc., etc.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday Evening, April 19, 1861.

The market for Breadstuffs has been more active during a month past, with an increase of receipts, sales, and of exports. For the first three months of this year the receipts at this port amounted to 460,000 barrels of Flour; exports to foreign countries 510,000 barrels. Receipts of Wheat, 547,000 bushels; exports 2,903,000 bushels. Receipts of Corn, 584,000 bushels; exports 2,064,000 bushels. Receipts of Barley, 262,000 bushels; exports, none. Receipts of Oats 265,000 bushels; exports 17,541 bushels. These figures show a large excess of exports of flour and wheat over the amounts received, to say nothing of the reduction of the latter by the demand for home consumption. The stock of flour on hand here is lower than at the corresponding period in any year within our recollection; and as the foreign demand continues brisk it will readily be seen that our market will be so completely exhausted of the principal articles of breadstuffs by the opening of internal navigation that it will be ready for large supplies from the interior. The present and prospective foreign demand is of great importance to our country. Every successive report from Great Britain renders more evident the poorness of the last harvest, as well as the bad effects upon the next harvest of the rainy season at the Autumn sowing, and the poor weather for wheat during the Winter. It is inevitable that large supplies of flour, wheat, and corn, must be drawn from this country all through the Spring and Summer, and probably during the entire year. Should the next harvest be unusually good upon the continent, and a general European war, now feared, not take place, we shall have competitors in the English markets; but at best this will not happen until

after large amounts of our present surplus have been absorbed. The disturbances in our own country, however, so far as they diminish manufacturing operations in New-England, will lessen the usual home demand.—Our current receipts are still brought forward to tide water by railroad. The canals will not get into full working order before the first week in May, when large supplies will move forward from all parts of the interior. The rate of foreign exchange has advanced somewhat, yet exporters have recently found it difficult to sell their bills drawn against produce shipped to England, and this has embarrassed foreign buyers so much as to lead to a temporary depression in prices, and, as shown by the tables below, the selling rates of wheat and flour, are rather lower than at our last report, though they have fluctuated somewhat during the month. Cotton is higher, owing to the moderate results of the last crop, and the political disturbances, which promise to largely diminish the next crop. The commencement of hostilities just at the planting season, and the necessarily increased breadth devoted to grain, will decidedly interfere with the culture of this staple.... The trade in provisions has improved, particularly in hog products. During the three months ending March 1st, the receipts comprised 30,038 packages of Pork; 7,500 packages of Beef; 45,564 packages of cut meats; 40,560 packages of Lard; 102,576 packages of Butter; and 45,400 packages of Cheese. The exports to all ports during the same period, amounted to 20,254 barrels of Pork; 11,224 tierces and 10,489 barrels of Beef; 32,024,335 lbs. of cut meats; 15,923,944 lbs. of Lard; 8,245,841 lbs. of cheese; and 3,256,106 lbs. of Butter. The above figures show a large increase in both receipts and exports, especially of butter.... Hoes.—We are now in possession of full returns of the pork packing of the past season in the Western States. The total number of hogs slaughtered, was 2,155,702, against 2,354,645, for season of 1859—1860, showing a deficiency in numbers, of 199,943, which deficiency is mainly in the returns from points South of the Ohio River. It appears, however, that there has been an increase in the average weight, equal to 14½ per cent, so that by deducting the decrease in number, 8½ per cent, from this, we have a net increase of 5½ per cent as compared with the previous season. The hog crop of 1860-61, then, compares with some previous years, as follows; 5½ per cent greater than 1859-60: ¼ per cent greater than 1858-9; 3½ per cent greater than 1857-8. The yield of lard per hog has been, generally, better than the previous year, but notwithstanding this, owing to the decrease in number of hogs packed, the increase in the quantity, as compared with last year, is not as large as might be at first supposed. The following figures show the comparison and the result, being the aggregate yield for each season, in lbs.: 1860-61, 68,947,274, lbs., 1859-60, 66,406,738, lbs., giving an increase in 3,540,536 lbs. The average yield per hog this year was 32 lbs., and last year 28½ lbs. Hay has declined, while Rice has advanced, with fair transactions in each.... The movements in other branches of trade have been restricted.

CURRENT WHOLESALE PRICES.

	March 19.	April 19.
Flour—Super to Extra State	\$5 10 @ 5 45	\$5 05 @ 5 40
Superfine Western	5 10 @ 5 17½	5 05 @ 5 15
Extra Western	5 20 @ 7 25	5 20 @ 7 25
Fancy to Extra Genesee	5 50 @ 7 25	5 45 @ 7 25
Super to Extra Southern	5 40 @ 7 25	5 20 @ 7 25
RYE FLOUR—Fine and Super	3 30 @ 4 10	3 30 @ 4 10
CORN MEAL	2 80 @ 3 25	2 80 @ 3 15
WHEAT—Canada White	1 42 @ 1 55	1 45 @ 1 60
Western White	1 40 @ 1 60	1 42 @ 1 65
Southern White	1 45 @ 1 65	1 47 @ 1 68
All kinds of Red	1 16 @ 1 35	1 20 @ 1 40
CORN—Yellow	61 @ 67	60 @ 70
White	67 @ 68	65 @ 73
Mixed	50 @ 63	60 @ 68
Oats—Western	32 @ 38½	34 @ 35
State	34 @ 34½	35 @ 36
Southern	31 @ 33	30 @ 33
RYE	63 @ 65	68 @ 69
BARLEY	65 @ 78	60 @ 75
HAY, in bales, per 100 lbs.	11½ @ 12	10 @ 100
COTTON—Middle, per lb.	11½ @ 12	12½ @ 13½
RICE, per 100 lbs.	3 25 @ 4 50	3 50 @ 5 00
HOPS, crop of 1860, per lb.	18 @ 30	15 @ 25
FEATHERS, Live Geese, p. lb.	38 @ 44	37 @ 43
SEED—Clover, per lb.	7½ @ 8¼	7½ @ 8¼
Timothy, per bushel	3 12½ @ 3 50	3 00 @ 3 50
SUGAR—Brown, per lb.	4¼ @ 7	4 @ 6¼
MOLASSES, New Orleans, p. gal.	30 @ 38	32 @ 38
COFFEE, Rio, per lb.	10½ @ 13½	11 @ 14
TOBACCO—Kentucky, &c. p. lb.	3 @ 13	2¼ @ 13
Seed Leaf, per lb.	5 @ 25	4 @ 25
WOOL—Domestic fleece, p. lb.	28 @ 55	28 @ 55
Domestic, pulled, per lb.	25 @ 42	22 @ 40
TALLOW, per lb.	9½ @ 9¾	9½ @ 9¾
OIL CAKE, per tun	31 50 @ 37 00	30 00 @ 36 00
POKE—New Mex, per bbl.	12 50 @ 16½	15 50 @ 17 75
Pork, new, per bbl.	12 50 @ 12½	13 00 @ 13
BEER—Repacked mess	8 50 @ 9 87½	8 75 @ 10 25
LARD, in bbls, per lb.	10 @ 10	9½ @ 10½
BUTTER—Western, per lb.	10 @ 15	10 @ 15
State, per lb.	14 @ 19	14 @ 19
CHEESE	8 @ 10½	6 @ 10
Eggs—Fresh, per dozen	13 @ 14	13½ @ 14
POULTRY—Fowls, per lb.	13 @ 14	13½ @ 14
Geese, per lb.	11½ @ 9	8 @ 10
Ducks, per lb.	12 @ 15	15 @ 18
Turkeys, per lb.	10 @ 13	12 @ 16
Quails, per dozen	2 00 @ 2 50	2 00 @ 2 50
Wild Pigeons, per doz.	50 @ 63	50 @ 63
APPLES, Prime, per bbl.	1 25 @ 2 00	1 50 @ 1 75
Med. 30 lbs, per bbl.	1 25 @ 1 50	1 50 @ 1 50
Common, per bbl.	1 00 @ 1 25	1 00 @ 1 25
Extra Dessert Apples	2 00 @ 3 00	2 00 @ 2 75
Dried Apples, per lb.	2 @ 4	2 @ 3
Dried Peaches, per lb.	8 @ 12	8 @ 13
Dried Cherries, pitted, per lb.	14 @ 15	12 @ 13
Dried Raspberries, per lb.	12 @ 13	12 @ 13

POTATOES—Mercers, per bbl.	2 00 @ 2 25	1 75 @ 2 25
Nova Scotia, per bushel	62 @ 67	1 75 @ 2 00
Dykeman and Buckley, p. bbl		1 75 @ 2 00
Peach Blows, per bbl.	1 87 @ 2 00	1 75 @ 2 00
ONIONS, Red, per bbl.	1 12 @ 1 25	1 75 @ 2 00
White, per bbl.	2 00 @ 3 50	2 50 @ 3 50
TURKISH, per bbl.	50 @ 62	50 @ 62
CABBAGES, per 100	3 00 @ 4 50	4 00 @ 6 00
Spinach, per bbl.		1 25 @

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	236,500	331,500	385,000	6,800	128,000	116,000
24 days last month	156,000	153,800	274,000	7,800	115,000	123,500
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	467,000	2,479,000	1,660,000	39,000	95,000	
24 days last month	310,000	1,327,000	1,376,000	14,900	51,300	

Exports of Breadstuffs from New-York, January 1, to April 10.

	1860.	1861.
Wheat Flour, bbls.	176,208	549,563
Rye Flour, bbls.	2,403	2,864
Corn Meal, bbls.	24,670	23,095
Wheat, bushels	143,020	3,116,230
Corn, bushels	157,151	2,170,491
Rye, bushels	100	
Barley, bushels	—	1,000
Oats, bushels	—	17,791

Comparative statement of the number of hogs packed, in each of the last two seasons, in the Western States.

	1859-60.	1860-61.
Ohio	681,908	624,798
Indiana	406,535	368,031
Illinois	503,735	512,991
Kentucky	322,487	251,896
Missouri	190,660	180,972
Tennessee	26,800	400
Iowa	166,623	162,204
Wisconsin	55,837	54,410

Grand total number packed.... 2,354,645 2,155,702

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been largely supplied with beefs, during the past five weeks, the total being 21,904, or an average of 4,381—a gain of more than 900 head per week over last month. The stock has generally been heavy, so that the increase in meat is large. Prices have declined fully 1c. per lb. during the time. At the last general market, April 16th, with 4,518 on sale prices ranged from 8½c. to 9c. per lb. estimated dressed weight, for choice animals, 7½c. @ 8½c. for good; and 6c. @ 7c. for poor. The average of all sales being 7½c. to 7½c. The stock was barely sold out at a decline of ½c. from the previous week.

VEAL CALVES.—Receipts are largely on the increase and veals will continue to come in freely for a month longer. For the past five weeks the numbers foot up 3,694 or 739 per week, being nearly double the receipts of last month. Prices are low, ranging from 3c. to 4c. per lb. live weight for poor calves, 4½c. @ 5c. for good, with a very few extras at 5½c.—an occasional one at 6c. Market very dull.

SHEEP.—Receipts about as last month, or an average of 6,426 per week. Prices are lower, being equal to about 5½c. @ 5½c. per lb. live weight for wool sheep, and 4c. @ 5c. for shorn sheep. Spring Lambs are beginning to arrive, and are in demand at about \$5 per head, for those dressing 30 lbs.

LIVE HOGS.—Receipts do not vary from last month, the weekly average being 6,912. Prices are ¼c. lower, or 5c. @ 5½c. per lb. live weight for corn fed hogs; and 4½c. @ 4½c. for still fed hogs. Demand inactive, and market more than supplied.

The Weather has recently been less Spring-like than usual at this season, or not as much so as appearances indicated two months ago. There have been very few days of warm weather for a month past—OUR DAILY WEATHER NOTES, condensed, read thus:—March 20, clear, cold, mercury 12°, snow at night—21, snow all day, part of it melting, but making one of the severest storms of the season—22, one foot snow on ground, and railroads badly blocked by deep drifts; the day clear and fine—23, clear, warm, snow fast going—24, 25, 26, clear, fine, snow gone—27, thunder shower A. M., ending in a severe rain storm—28 to 31, clear, fine—April 1, cloudy A. M., snow, and rain P. M., and at night—2, clear A. M., cloudy P. M.—3, cloudy—4, 5, 6, clear, fine, frogs heard—7, cloudy A. M., clear P. M.—8 to 11, clear, fine, but rather cool—12, cloudy—13, rain—14, clear—15, clear A. M., cloudy, with light rain, P. M.—16, heavy soaking rain—17, barometer at lowest point (29 inches) reached for a year past; rain A. M., cloudy, cold with high winds P. M.—18, clear and cool, A. M. (32°), cloudy P. M., rain at night—19, passing clouds, chilly.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—Indicates rain, s, snow.]

MARCH.				
1.....50r	8.....17	15.....29	22.....29	29.....36
2.....44	9.....46r	16.....31	23.....31	30.....47
3.....46	10.....36	17.....42	24.....39	31.....36
4.....45	11.....26	18.....17s	25.....31	
5.....35	12.....33r	19.....17s	26.....40r	Average.34
6.....25	13.....39r	20.....18s	27.....48r	
7.....15	14.....29s	21.....35s	28.....40	
APRIL.				
1.....34s	4.....32	7.....40	10.....34	13.....51r
2.....32	5.....38	8.....40	11.....37	14.....49
3.....33	6.....41	9.....36	12.....40	15.....46

SPECIAL EDITION

For the
PACIFIC COAST.

An Extra Early Edition of the *American Agriculturist*, for subscribers in California, Oregon, Washington Territory, and the Sandwich Islands, is regularly issued on the evening of the 20th of each month, to go by the mail Steamer leaving N. Y., on the morning of the 21st.

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We are happy to announce to our subscribers, that the postage on all kinds of seeds, and on cuttings, or cions, is now reduced from 6 cents, to 1 cent per ounce, when sent less than 1500 miles, and from 20 cents, to only 2 cents per ounce on all distances over 1500 miles.

This will greatly facilitate our sending seeds to our distant subscribers hereafter. It is now too late to take advantage of this reduction the present spring. Those who have not yet had seeds from this office, who may receive this notice in Season to send for the turnip seed (page 154) might yet apply for it.

Those forwarding a new subscriber may apply for an ounce or two which will be cheerfully forwarded as a premium.

The Premiums

Offered on page 160, will close July 1st. Aditional time, however, will be allowed for persons living too remote to send in prior to that time.

The Postage on the *Agriculturist* is positively only Six Cents a Year.

We hear that several Post Masters are charging 12, 18, 36, and even 72 cents a year on the *Agriculturist*. This is wrong. The law expressly says that a Periodical issued at stated periods, and not weighing over 3 ounces avoirdupois, shall be charged one cent per number, and only half this sum if paid quarterly in advance. The paper for the *Agriculturist* is purposely manufactured so that it shall weigh a small fraction less than three ounces. We would add an occasional extra page for more advertising room, could we do so without increasing the postage to our subscribers. The Post Master has several times decided that the postage on the *Agriculturist* is only six cents a year. See one of these decisions on page 96, volume XVII. There has been no change in the law or in the weight of the paper since. The paper must be weighed dry and without the wrapper. Subscribers will please inform us of any future over charge.

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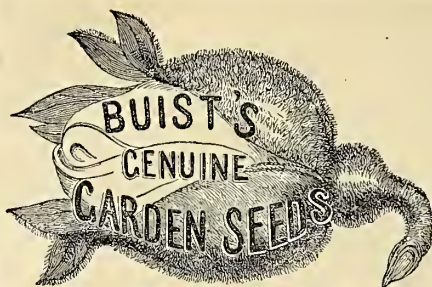
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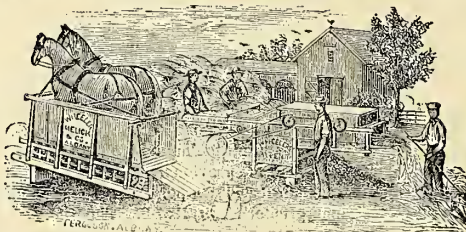


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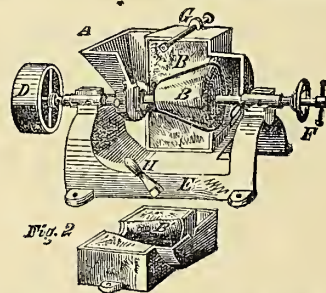
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A Purchasing and Commission Agency,
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TO WHOM IT MAY CONCERN,

New-York, March 20th, 1861.

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FRANCIS HALL, Esq., Editor of N. Y. Com. Advertiser.
ORANGE JUDD, Esq., Editor of American Agriculturist.
WM. B. SKIDMORE, Esq., Treas'r Erie R. R. Long Dock Co.
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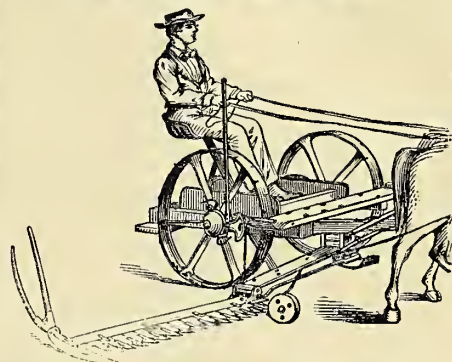
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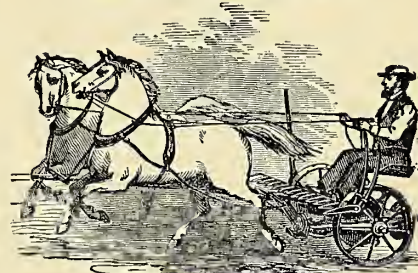
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Contents for May, 1861.

Apples—Painted—Novel Deception.....	145
Apples—Reports on Best for different Localities.....	143
Aquarium—Fresh Water—Management of.....	150
Bees—Apiary in May.....	133
Boys' and Girls' Columns—Editor with his Young Readers—"Happy as a King"—"I Didn't Think"—Speak Gently—Amusing Dog Lawsuit—The Armadillo—A Knowing Dog—Look before you Run—Rocking Babies to Sleep—A Little Girl Out-Argues the Editor—Uncle John's Study—No. V.—Philosophy of the Magic Plate—Problems—The Simple Secret, etc., etc.....	3 Illustrations. 152-154
Butter—Keeping Sweet.....	138
Butter Making—Experimentin.....	138
CALENDAR OF OPERATIONS FOR THE MONTH.....	130
Carrots—Value of.....	139
Corn—Seed—Detecting Frozen.....	138
Dairy—Profitable.....	139
Draining—How to Drain.....	2 Illustrations. 137
Draining Questions.....	134
Drains—Pipe for House Slops.....	137
Farm—Laying out—Economy in Fencing.....	1 Illustration. 139
Farm Work in May.....	130
Firkin—Convenient Way of Hooping.....	151
Flower Garden and Lawn in May.....	132
Flower Garden—An Impromptu.....	Illustrated. 147
Flowers—Herbaceous Perennials—Value and Cultivation of.....	146
Flowers—Perennials—What to Cultivate.....	146
Garden—Kitchen and Fruit in May.....	131
Gardens for Health.....	147
Girl—Hiring a.....	151
Grain—Raise one Bushel More.....	136
Grape Culture—A Hint in—Layering.....	146
Green and Hot Houses in May.....	133
Horses—Cost of Keeping.....	141
Horses—Engraving from Painting by Landseer.....	144
Horses—Galls on.....	141
Insects—Microscopic Views—Pigeon Tremex—Pimpla Vividus.....	9 Illustrations. 140
Insects—Troublesome House.....	150
Lantern Blinks. XXVII—Diogenes Redivivus Visits a Contented Farmer's Wife.....	149
Lawn—Perfecting the.....	5 Illustrations. 148
Letter from Pod Auger.....	145
Manuring—High, Pays.....	136
May—Suggestions—Poultry Raising.....	Illustrated. 129
Orchard and Nursery in May.....	131
Paint—A Cheap.....	136
Pear—Doyenne d'Ete.....	Illustrated. 146
Pear—New Winter—Duchesse d'Hiver.....	145
Plaster of Paris—Practical Suggestions.....	137
Plows—Draught of—Experiments—The Cylindrical Plow.....	136
Pork—How to Cook.....	151
Potatoes—How to Raise Cheaply.....	139
Poultry Raising—Experience in—Black Spanish.....	142
Poultry—Turkeys—How to Raise.....	142
Recipes—Puff Omelet—Steamed Eggs—Apple Pie—Dumpling—Palatable Castor Oil.....	151
Seeds—Hints on Sowing Garden.....	149
Sheep—Foot Rot—Treatment of.....	141
Squash Seeds—How to Keep Pure.....	149
Stables—Sparred Floors for.....	141
Strawberries—Managing.....	149
Swine—Pigs more Profitable than Calves.....	142
Swine—The Family Pig.....	141
Tool—The Best for Tillage.....	139
Transplanting—Directions for.....	Illustrated. 149
Trees—Dwarf Apples—Best Sorts.....	145
Pees—Planting—May Day Festival.....	145
Trees—Suggestions about Dwarf Pears.....	145
Trees—Too Old to Plant.....	146
Washing Table—Convenient.....	151
Weeds—A Thousand at one Pull.....	138

INDEX TO "BASKET" ITEMS.

Bast for Mats and Budding.....	135
Boots and Shoes—Wooden Soled.....	135
Buying Implements.....	134
Cheese Making—Rules—New Method of Curing.....	135
Chickens—Raising in Hot-Beds.....	134
Corn—Late Gathering of—More Good.....	135
Corn—Protecting from Cut Worms and Crows.....	135
Dictionary Premium.....	134
Drained Land—Questions—Winter Killing.....	134
Dwarf Broom Corn Seed.....	134
Egyptian Corn Humbug.....	134
Flowers—Single made Double—Petunias.....	135
Grape Vines—Treatment of Bleeding.....	135
Hedges—Osage Orange.....	135
Insects—Pea Weevil—Polyphemus Moth Destroying Green Fly—Wheat Insects—Sulphur for Potato Bugs—Soot for Garden Fleas—Tobacco for Roses.....	135
Japanese Wheat Humbug.....	134
Lawn Grass.....	134
Manure—Tan Bark—Muck with Offal—Bone Dust or Guano for Oats.....	135
Market Fair.....	134
Marls.....	134
Melons—Rotting.....	134
Millet—Texan.....	135
Nasturtiums.....	134
Patent Office Reports and Seeds.....	135
Peas—Supporting—Convenient Way.....	135
Potatoes—Early—Mercers and Buckeyes.....	135
Potatoes, Sods Under—Bugs.....	134
Poultry—Gapes in Chickens—To Prevent Hens Sitting.....	135
Premiums for All.....	134
Raspberry—Allen.....	135
Rats—Coal Oil for—To Kill Muskrats.....	135
Rhubarb.....	134
Rye—Giant and White.....	134
Seeds—Persons Offering Free.....	134
Shallots.....	134
Sorghum Sugar.....	134
Squash—Hubbard.....	134
Trees—Barked—Warming an Orchard.....	135
Trees—Preventing Sprouts.....	135
Turnips—Early.....	134
Wistaria—Chinese—How Propagated.....	135

Publisher's Notices.

[For other Business Items see first Basket Items, page 134, also pages 154 and 156.]

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FOR THE

Farm, Garden, and Household.

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ORANGE JUDD, A.M.,
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June.

At leisure now, O let me once again,
Once, 'ere I leave the cultivated fields,
My favorite Patty, in her dairy's pride,
Revisit; and the generous steeds which grace
The pastures of her swain, well pleased survey.
The lowing kine, see, at their 'customed hour,
Wait the returning pail. The rosy maids,
Crouching beneath their sides, in copious streams
Exhaust the swelling udder. Vessels large
And broad, by the sweet hand of neatness cleaned,
Meanwhile, in decent order ranged, appear,
The milky treasure, strained through filtering lawn,
Intended to receive." DODSLEY.

There is a charm about old English poetry, to be found in the literature of no other nation. It is as dewy and fragrant as one of these June mornings, full of rural sights and sounds. What can be more delightful than the fields, now that the lingering Spring is gone, and the Summer has begun its work in good earnest? The grass is luxuriant, and the butter-cups and dandelions are unfolding their golden blossoms. The dew stands in beaded drops upon the green spires, and sweet odors are wafted on every breeze. The song of birds is never so sweet as at the morning hour, when every sense awakes with new life from sleep, and field and forest put on

new robes of beauty, to hail the morning sun.

Our illustration introduces us to the raw material of June butter, which is famous wherever butter is known at all. No month equals this in the quantity and quality of this article. The grasses are now luxuriant, and the cows have full feed. They are also, some of them, in blossom, and something of the aroma and perfume is thought to be transmitted to the butter. However this may be, the fact is not disputed. The scene is perfectly English, the character of the landscape, the maid at the milk-pail, and the swain at the bars. This part of the picture would be reversed in this country. We are too tender of our women to allow them a place in the milking yard. While almost all English and Irish men who come over to us are unused to milking, Ann and Bridget are as certain to understand the care of the cow, and her milk, as they are to hail from the cottage and the farm. On the other hand, our Yankee boys upon the farm are invariably trained to the milk-pail, from their earliest days. Who that hails from the farm, does not remember this as a part of his early discipline? As soon as he had strength enough to milk rapidly, he was put to his task, and carefully instructed, probably by his father, in this wise. "Be very gentle with the heifer, John; no loud talking or scolding in the yard. Use the stool for a seat, and not to beat the cow. After cleaning her bag, milk as fast as you can until the last drop is drawn." Milking was a part of his daily duty, in Summer, from the age of ten till he quit the farm. He remembers the early call from bed, his twilight visits to the farm yard, his driving the cows to pasture before sunrise, his numerous pauses by the wayside to hear the song of the robin, or the black bird, his admiration of the apple blossoms, and the bees that made honey and music in the fragrant branches, his eager inspection of the blue and speckled eggs in the bird's nests, his bringing home the cows at night with weary footsteps, after the other farm labors were done. All these are familiar memories with our boys and men, but how very few of our women, of the present generation, know anything of the duties of the dairy outside of the milk-room. In the present rage for out-door amusements for our girls and ladies, it is not impossible that this once fashionable out-door work for women may come round again. We do not, however, think it desirable. We sympathize with the common orthodox notion that "the barn-yard is no place for woman." It is doubtless one of the rights of women to take care of the milk, and to make the butter and cheese.

The dairy is one of the most important of all our farm interests, and as a dairy State, New-York stands at the head of the list. The seventh census shows 313,000,000 pounds of butter, and 105,000,000 pounds of cheese made in the country, in a single year, worth at least \$100,000,000

Nearly one-fourth of the butter, and one-half of the cheese, was made in New-York. The last census, doubtless, will show a great increase of these products, and a much smaller proportion in this State. Vast regions of grazing country in the new States have been opened, and we trust that statistics will show that in some of the old States, the long neglected pastures have begun to improve.

No part of the farm has been abused so persistently, as the pasture. While the tilled fields have had manure, and many of them have been well cared for, the pastures have, in most cases, had nothing returned to them. There are many fields now, in the old States, that have never been plowed, and never received an ounce of manure beyond that dropped by cattle while feeding. They have occasionally had the bushes cut, and this is about all the care they have received for a century. Every year the fertility has been carried off in the shape of milk, butter, cheese, beef, and mutton, until the pastures are almost barren. In many cases they will not keep a fourth part of the stock they once kept. It is thought strange that they can not make as much butter and cheese as formerly.

The proper treatment of pastures, so as to restore their fertility, is one of the most important topics that can be discussed in the dairy region. Many of these pastures are too rough and rocky to plow, and are too distant to be manured economically from the barn-yard.

We should in all cases, upon arable land, prefer to have pastures, as well as the meadows, plowed. All land does better with a rotation of crops. Where this is not practicable, we must resort to top-dressings, and limit the number of stock to the capacity of the land. Many of these pastures have been run down by over-stocking. They have had no chance to recuperate. Cattle are turned in, in early Spring, and they are kept in until the snow falls. The grass is gnawed so close that little or none is allowed to go to seed, and the roots grow weaker every year. Something may be done by reducing the stock.

Sheep husbandry, on high lands, has been found to restore the fertility of these worn out pastures. Sheep eat plants and shrubs that a cow will not touch. Some find great advantage from an annual sowing of plaster. Bone dust is another excellent remedy, more expensive at first, but much more durable. Ashes, where they can be had, prove an excellent and lasting manure. It is matter of great importance to make a beginning in this work of improvement. It is folly to expect that our pastures will maintain their fertility if we return nothing for the milk they yield us.

One of the first things to be done this month, is to look after the vacant spots. Note sundry hints on the subject in the Calendar, also on p. 167, and elsewhere.—[Note also the publisher's offers on pages 188, 189, and 192.]

Calendar of Operations for June, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.]

EXPLANATIONS.—*f* Indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

There is scarcely a more important agricultural month in the whole year, than June. It terminates the period in which most seeds can be sown, and introduces the indispensable work of cultivation. Many early sown or planted crops that have failed, may yet be replaced; if the whole available area be not already occupied with growing crops, now is the time to put in quick growing corn, beans, or other staples. The early planted corn, potatoes, and roots of all kinds, should receive immediate and careful attention, to free them from weeds, loosen the soil, top-dress with guano, ashes, or plaster, and thus secure their rapid growth. Vigorous growth in the earlier stages of a plant, is most likely to be followed by generous fruiting.

Cultivation of the soil may appear tame and uninteresting work in these exciting times, and the temptation will be great to leave peaceful fields for the field of conflict, but remember that feeding the country is as necessary, as fighting her battles, and that full garrisons can only be maintained by full garners.

Barley will usually yield a fair crop, if sown at this season, although earlier sowing is preferable. It succeeds best on a gravelly soil, and may well occupy ground devoted to hoed crops last year. Sow two and a half to three bushels per acre, and harrow in thoroughly.

Barns and Sheds will soon be needed to receive the first fruits of the mowing grounds. Put platforms, bay-ways, etc., in order; clean out all rubbish, and repair floors and entranceways, if needed. Examine grain bins, wool closets, and cattle stalls, and exterminate any vermin.

Beans—Plant, *ff*, where corn has failed, if seed of King Philip, or other early variety, can not be had. They may also be put in on soil too light for corn. They do not require heavy manuring; too strong soil gives great growth of vine, without a corresponding yield. If the war continues long, beans will be in great demand; they furnish much nutriment in a small space. Plant them abundantly.

Beets—Mangel Wurzel and Sugar varieties, sown *ff*, *m*, will have plenty of time to mature for winter feeding. A great saving of grain and hay will be effected, by having a good supply of these and other roots, to feed out in Winter and Spring.

Butter, if properly made during this month, may be laid down and kept throughout the season, or until the best prices can be had. Cleanliness and thorough working are the two essential points to be observed. Keep the milk room cool, and free from dust, insects, and offensive smells. Churning the milk with the cream, after the latter has risen, saves the work of skimming, and some claim that more butter is obtained in this manner. Experiment to learn if this be true; note also the quality of the butter. In sending butter to market, be careful to have the cask or pail look neat and inviting, and plainly marked. New tubs should be well scalded with buttermilk before packing, to remove the taste of the wood.

Cabbages—Plant out for late crops, *m*, *l*. Hoe and cultivate between the rows of those previously set, at least once a week—the oftener the better. Set plants between the rows of early potatoes, which are to be dug, *ll*, or the first of July. Examine often to destroy cut worms and other insects.

Carrots—In favorable seasons large crops have been obtained, when sown the first week in June. Keep the rows well hoed, and thin to six inches apart. They may be drilled in between rows of onions after the second or third hoeing of the latter. If this be done, leave every third space vacant, to give room for curing the onions when pulled.

Cheese—Study to improve the quality, rather than to increase the quantity produced. "White-oak" cheeses are always a drug in market, while those of first class are always in demand at good prices. Valuable information on cheese making is given in a series of articles on the Dairy in the eighteenth volume of the *Agriculturist*.

Cattle—Young cattle, especially calves of the present season, need attention to keep them growing. Allow them the best pasture: read "Feed for Weaned Calves," page 173.

Corn—A good crop of the King Philip variety may be obtained, if planted during the first week of June. Indeed, most kinds of corn, (except the very large sorts which require a long season for maturing,) may be planted during the first week in June. Some do all their planting as late as June 1. Soaking the seed in tar water, and rolling in plaster, and manuring in the hill with compost manure, bone dust, or Peruvian guano mixed with plenty of soil, will give the young shoots a strong and rapid start. Go through land already planted, with the cultivator and hoe, clear out all weeds and grass, thin the corn to four stalks in the hill, and replant missing hills. Sow and drill both common and sweet varieties for cutting green in August and September. Read "Sow Corn for Feeding," page 170.

Grain Fields will whiten to the harvest in southern localities, *ff*. Wheat or rye should be cut, as soon as the berry is advanced enough to bear moderate pressure of the thumb-nail, without breaking, or just after it leaves the "milk" stage.—Examine the fields for the earliest and best portions, to be left to ripen fully for seed. Read "Weed the Wheat fields," page 171.

Haying will begin, *ll*, in the earlier sections. Cut grass or clover for hay, just as the bloom is passing away, and the seed commences to form. If left later, much of the nourishing part of the stalk is hardened into woody fiber. Provide a supply of hay caps, to be used this season. They will enable you to cure much of the hay in the cock, which will give a better quality of fodder. A mowing machine and a horse pitchfork will pay on all farms, where there is much meadow.

Manure—Turn every source to account, as recommended in previous numbers. Throw weeds from the garden, etc., into the pig sty, and supply the swine with plenty of material, to work over at their leisure. Read "Home-made Bone Manure," on a subsequent page.

Millet—Sow, *ff*, *m*. Read "Millet for Fodder," p. 170.

Peas—Sow or plant, *ff*, if there be vacant ground. They make excellent food for swine, when fed green with the straw, or ripened and ground with oats, or when fed alone, cooked or soaked. Hogs will grow and partly fatten well on peas. The last few weeks' feeding should be on corn, to harden the pork.

Potatoes—Keep well hoed until blossoming. Hill them only moderately. Try top-dressing with ashes, to drive away insects, and to prevent rotting. See article on the "Potato Disease" in this paper.

Poultry—Accustom them to lay in their appropriate places, by confining them in the poultry yard until after noon. Allow none to set after the middle of this month. Give plenty of food, particularly to the growing broods, to fit them for an early market. Keep their apartments clean, and use the droppings, mixed with plaster, in the garden. They are also an excellent addition to liquid manure.

Sheep washing and shearing will need attention, *ff*. A vat constructed for the purpose, as described in Vol. XIX, page 136 (May No.), is a great convenience. Remove all tag locks, burdocks, thistles, etc., from the fleeces, before tying them up for market. Mark each sheep plainly as soon as sheared, and designate ewes having superior fleeces, with a

special mark, that they may be reserved for breeding. Dock and castrate lambs, if not already done, and guard against the fly by smearing wounds with tar. Look out for foot rot as directed in the May No.

Sorghum—Drill or sow broadcast for cutting and feeding green, or to be cured for winter fodder. Cultivate that already planted, the same as corn.

Swine—Keep them growing with wash from the dairy, mixed with ground feed. Allow them the range of the orchard, to destroy grubs and worms in unsound fruit. Suffer none to run in the highway. A good clover pasture will afford them excellent feed. They should be supplied with pure water.

Tanners' Bark—Peel from hemlock and oak, as soon as it will run freely, and pile it so as to protect from rain.

Tools, particularly for haying and harvesting, should all be in readiness before the season of use.

Weeds grow rapidly, if left during this month. Keep the cultivator and horse and hand hoes busy—clean tillage pays best.

Orchard and Nursery.

The professional nurseryman will find enough to occupy his time during this month, stirring the soil, keeping down weeds, pruning or heading back, removing suckers, transplanting evergreens, etc., but the farmer will find little leisure for the care of his orchard, which is too frequently neglected in the pressure of other business. If it is worth while to plant an orchard, it will pay to give it some attention. In vain is a crop of corn or potatoes expected without labor bestowed upon the field after planting. If the young orchard were properly pruned, the branches cut back and well shaped with a *knife* in June and July, no large branches would have to be removed subsequently, leaving a wound to cause premature decay. But if large limbs are to be removed from grown trees, which were neglected while young, June and July are the proper months to remove them. The foliage shades the wounds, and prevents sun-checking, and a healthy growth of new wood at once begins to roll over the cut. By no means leave a *stub* to be covered by this new growth, but cut close to the body with a *fine saw*, rather than with an *ax*. It is also advisable to coat the sawed space with a solution of gum shellac, dissolved in alcohol to the consistence of thick molasses, putting it on with a painter's brush. By all means, spare time enough to give the orchard its annual pruning now—it will abundantly pay. After a little practice, a glance will tell what branches should be removed, to form a well balanced and tolerably compact head, with few inside crossing limbs. Two extremes should be avoided. One is, the cutting out of all the central shoots, and encouraging a tall or wide-spread growth. This leaves the bearing portions high in air, where they are swayed and thrashed by high winds, with a long distance for the fruit to fall; it is also inconvenient to pick. The branches are often so spread with the weights upon their extremities, as to split them down. Again, with the pear especially, there is not sufficient shade upon the main branches and body of the tree. The other extreme is, heading back too strongly, and not cutting out the center sufficiently. We have seen the branches so thick and interwoven, that it was almost impossible to gather the fruit.

Stimulate the growth of both old and young trees in a poor soil, by a liberal coating of manure about the roots. Remember, that new wood and fruit spurs are wanted this year, to bear next season. Shortening in in June, checks the flow of sap, and tends to the formation of fruit buds. A stout cord or strap, fastened around the body of a young tree, or the main branches of older ones, by compressing the sap vessels, tends to the same end, though this is not generally advisable, except in the case of persistent non-bearing of trees.

Evergreens may safely be transplanted early in June. Besides attending to this in the nursery, let the newly planted and exposed orchard have a belt set upon the sides most affected by the prevailing

winds. In prairie countries it may need a *thick* belt of both evergreen and deciduous trees, to break the winds. Native evergreens can be taken from the open grounds, where nursery grown trees can not be had. Directions for pruning evergreens will be found under "Flower Garden and Lawn." See article on evergreens, on page 178.

Grafts set this year, should now be examined. Loosen any strings enttling into the bark, replace clay or wax where needed; and rub off superfluous shoots, or suckers.

Budding is better done next month in this latitude; at the South it may be commenced, *U*. Remove suckers from trees budded last year, and keep the growing buds tied up, to prevent their being broken off by their own weight, or by the wind.

Hoeing—The plow, horse-hoe, or cultivator, will almost entirely do away with work by hand in the nursery row and the orchard. Avoid barking the trunks of the trees by passing too closely with the plow. Use the hand hoe to remove grass and weeds immediately about the trees.

Layering and Inarching may begin, *U*. Use new ground for layers, and old wood for Inarching.

Insects—Allow no caterpillars to remain entrenched in the trees. Pull their houses down early in the morning, or in the evening, while the occupants are at home. Especially watch for the cecidius, as they begin their ravages almost as soon as the plums set. Dust trees with lime, syringe with oil soap, or jar the insects upon a sheet, spread under the trees. A combined effort at catching the "bugs," would soon depopulate a neighborhood. Give the chickens a range under both plum and cherry trees. Few insects will escape to trouble fruit. Cultivate the friendship of birds, allowing no marauding sportsman to fire a gun upon your premises. Keep the grass and weeds down about the trunks of young trees, else the borer moth will lay her eggs there. A newspaper tied around the tree, *close* to the ground, and for one foot or more above, will usually save the trees. If fearful that eggs are already there, wash the body with strong soap suds, or potash and water. The same wash will remove scale or "lice," which are now quite small, and easily rubbed off.

Mulching is beneficial on open soils, especially for newly planted trees, and in a drouth. Cover the whole ground, or as far as the roots spread, with straw, tan bark, saw-dust, or coarse manure. This is better than watering. Evergreens, especially, will be benefited by mulching.

Seed-Beds should receive careful attention. Remove weeds, and loosen the soil, thin or transplant where needed, and shade evergreens from hot sun.

Water newly planted trees, if very dry, and mulch, to retain the moisture and prevent the surface from crustling. Occasional thorough watering is better than frequent sprinkling.

Weeds will not be allowed a place in either well cultivated nursery or orchard.

Kitchen and Fruit Garden.

The rapid growth induced by the favoring weather usually experienced this month, may be yet more hastened by proper cultivation. Quick growth of all garden vegetables is particularly desirable, as the flavor is in most cases greatly superior to that of tardy plants. Keep down the weeds; keep the soil loose—these are the golden rules of gardening. While the dew is on in the morning, is the most favorable time for hoeing, excepting beans, and plants whose tender leaves would be injured by dirt adhering to them.

Asparagus—Discontinue cutting from the bed, *m*, where the gathering began early. Keep down all weeds, and allow the plants to grow—the feathery stalks will be an ornament to the garden.

Beans—Plant early varieties in vacant spots, *f*. Train running sorts to open trellises, which allow better exposure to the sun, than when the vines twine around poles.

Beets—Sow, *m*, *l*, for Fall and Winter use. If the ground becomes crusted after sowing, water the

rows at night, to allow the young plants to push their way through. Keep well hoed, and thin the plants early to eight inches apart.

Blackberries and Raspberries—Keep all canes, including new growth, properly trained to stakes or trellises. Allow only those shoots to remain, which are wanted for next year's bearing, except they are wanted to make new plots. If specimens of extra large fruit are desired, thin the clusters and berries, leaving only one or two clusters in a bunch.

Borecole, Broccoli, Brussels Sprouts, Kale, etc.—Transplant for late use, *f*, *m*.

Cabbage and Cauliflower—Sow seed, *f*, for latest transplanting. Set out, *f*, *m*, for Autumn, and, *U*, for Winter use. Hoe often, it can scarcely be done too frequently. Watch for insects and destroy them.

Carrots—Follow directions given under "Farm."

Celery—Prepare trenches—one foot wide, two feet deep, and four feet apart. Put in six inches of well rotted manure, and six inches of soil; mix thoroughly, and set the young plants, *m*, *l*. A clear, cool day is best. Water the plants before transplanting, and preserve the roots as unbroken as possible. Shade the trenches for a day or two, to keep from wilting, and water if very dry, applying it at evening.

Corn—Plant Stowell's Evergreen, or other sweet varieties, *f*, *m*, *l*, to keep up a succession for late use. Keep well hoed and free from weeds.

Cucumbers, Melons, and Squashes—Put in cucumbers for pickles, *m*, *l*. Occasional watering the vines with liquid manure, made by mixing fresh cow droppings, or hen manure with water, will repel insects, and rapidly forward the growth. The striped bugs may be easily taken early in the morning, while the dew is on, and destroyed. Examine the under side of the squash leaves for eggs of the squash bug. Hundreds may be destroyed before hatching. Leaves of the Ailantus tree are offensive to some insects; they must be replaced as often as dry.

Currants—Keep the bushes trained to good form by pinching off straggling shoots as they appear: this will save the necessity of further pruning, except to remove dead wood. Keep the ground around them loose, and free from weeds. Water the bushes with soap suds, and other wash from the house. Make jelly from the fruit, before it is dead ripe; for wine it is better fully matured.

Egg Plants—Transplant, *f*, for general crop, and, *m*, for late use. Give them a warm situation, and loose, rich soil. Read article on page 180.

Fruit Trees—Keep dwarf pears and other fruit trees trained to good shape, by pinching out superfluous shoots as they appear. Remove all but one or two specimens from trees transplanted this year, or last Fall. If cherries can not be marketed, preserve them in bottles, or remove pits and dry them.

Gooseberries—Cultivate and treat as directed for currants. Keep the surface of the ground moist by mulching. If large specimens of fruit are desired, leave a single berry on a shoot, and support it in a small bag of millinet tied to the branch.

Grapes—Proper care in pinching out unnecessary shoots, and shortening in too rampant growth, will obviate the necessity for severe cutting in the Fall, and the strength of the vine will be retained in the remaining canes. Leave only one bunch of fruit on a spur. Continue to watch against insects. Showering with whale oil soap, or other solutions, from the syringe or hydrolut, will dislodge many. Others must be removed by hand.

Insects of some species infest and injure almost every variety of garden produce; they can be kept in subjection only by constant watchfulness. A crop of young chickens will do valuable service in exterminating them.

Lettuce—Sow in vacant corners at intervals of a week, to keep up a succession. Give plenty of room for Cabbage varieties to head. Hoe after the dew is off, and avoid throwing dirt upon the leaves.

Onions—Keep the plot entirely free from weeds, and the surface loose. Thin to four inches in the

row. A dressing of salt and ashes is recommended to expel the maggot of the onion fly.

Parsneps and Salsafy—Hoe and thin, *f*, the same as for beets and carrots.

Peas—Plant for general crop, *f*. Set bushes or trellises of stakes and twine for their support, at the time of planting.

Paths and Borders should be kept free from weeds, and leveled to proper shape. Keep the edges of beds properly squared, and let neatness be everywhere observed.

Potatoes may still be planted, *f*. Cultivate as directed under "Farm."

Radishes—Keep up a supply by scattering seeds at intervals in unoccupied spaces, between rows of young plants, hills of corn, melons, etc. Leave the best and earliest for seed.

Rhubarb—While the yield is abundant, cut and dry for Winter use; or stew them as for the table, and preserve in bottles. The season will be prolonged by removing the seed stalks.

Spinach—Sow, *f*, *m*, for continued supply. It may take the place of early lettuce, radishes, etc.

Strawberries—Remove all grass and weeds, and mulch the ground with tan bark or short straw, before picking commences. Keep the beds well watered while fruit is forming, if there be drouth.

Tomatoes—Transplant *f*, *m*, for late use. Support growing vines with brush or frames of lath. Shorten in the branches, to prevent rank bushy growth. Keep well hoed.

Transplant to fill vacant spots, or replace weak plants. It can be successfully done at any time while plants are young, provided directions given in last number be observed.

Turnips—Sow, *f*, *m*, for Summer and Autumn use. Sprinkle the young plants with a decoction of quassia, to drive away insects. Thin early, and hoe often.

Water is best applied to plants in the evening, or very early in the morning. Give as may be needed, particularly to plants lately set out.

Weeds are easiest destroyed when they first appear. Give them no quarter.

Winter Cherry—Sow, *f*, if not done. Transplant from former sowings; set the plants two feet apart, in good soil.

Flower Garden and Lawn.

June is emphatically a month of roses, and the common garden, hybrid perpetual, moss, monthly, climbing, tea and China sorts, vie with each other in form of flower, sweetness of perfume, or delicacy of coloring, and he who has a good collection is now rejoicing in the treasure.

Besides the roses, there are many other pleasing objects connected with the garden and lawn, especially if one has had a conservatory, green-house, or even hot-bed to draw from. The masses of bedding plants nearly hide the ground with their bloom, while single specimens of various sorts, here and there, break the monotony and relieve the eye. The plants, with variegated foliage, are especially interesting, and now that they are within the reach of large numbers, we commend the growing taste for this class.

This is a growing month, and weeds are rapidly coming to light. They would soon entirely overrun the delicate flowers, if left unchecked. With hoe, rake, and weeding knife, the gardener must commence and continue a war of extermination upon them. Nor is it sufficient to merely keep down weeds. The ground should be frequently stirred, or it will crust or bake upon the surface, shutting out air and dews from the roots, and turning away the rain which should penetrate the soil. A fine-toothed rake is a good implement for lightening the surface, and at the same time disturbing the weed seeds about sending up their shoots. Besides keeping down the weeds, there are many plants to be removed or thrown away; it is impossible to have healthy foliage and a fine bloom in crowded grounds.

If any vacant space is left, it may still be sown

with annuals and perennials. There is ample time for the latter to make sufficient growth for a free bloom the next season. The various bedding plants alluded to last month, may still be set out, *f*.

Box Edgings may also be set, *f*, *m*. Trim or shear old borders, *m*, *l*, on damp or cloudy days. Keep well hoed, and replace any unsightly or defective plants with those of thrifty growth.

Bulbs—Lift, *l*, those which have finished blooming, if needing to be reset in the Fall. Dry them in the shade, and put in boxes or pots of dry earth, or lay in drawers, or wrap in papers, carefully labeling.

Carnations and other Pinks—Keep well tied up while in bloom. By shading with a muslin screen during mid-day, the flowering season may be much prolonged. Layer, and make cuttings, *f*, *m*.

Climbers of all kinds should be kept well secured to stakes or trellises. Those to be laid down in the Fall, should not be allowed to twine in such a way that they can not be easily removed. Such should also be kept from passing and repassing through the meshes of wire or slat lattice work.

Dahlias bloom best in Autumn. We prefer keeping them back, and usually plant out some roots the latter part of June. Allow but one stalk to a root.

Evergreens may well be set out, *f*, *m*. Remove them with earth about the roots, when practicable, and water freely at the time of setting. Those set last month, will do better if watered during dry weather, and still better if well mulched. They may now be pruned with safety.

Flower Stalks—Cut away as fast as they are out of bloom. They have an unsightly appearance when left in the flower border. They should give place to the later growing annuals. Remove also the withered flower stems.

Grass Edgings, or Borders—The grass is now growing rapidly, and needs frequent clipping, and an occasional trimming or paring at the edges, to prevent its extending into the beds or paths. Good sorts of one kind of grass are far preferable to box for edgings or borders. Grass with running roots is not desirable.

Geraniums—Plant out, *f*, any remaining in pots. They mass finely, either in distinct colors, or when mixed.

Gravel Walks—Keep free from grass and weeds, raking and rolling frequently. Add fresh gravel to old paths. Hot water may some times be resorted to, to kill persistent grasses, when you have not time to use the hoe. If used it should not be allowed to run into the grass border while hot.

Hedges—Cut from the top, *m*, *l*, to thicken up the bottom. They may be cut to any desired form.

House Plants—Green-house, hot-house, and parlor plants have nearly all been transferred to these grounds, some of them for summer blooming, others to attain a flowering size by the time they are returned to the houses in the Fall. Some have been planted out, while others are plunged in the earth, and should be lifted, pot and all, and turned so as to separate any roots extending through the hole at the bottom. Pinch back freely, to form fine bushy plants.

Insects are now providing for future broods. Forestall their operations by destroying the parent stock. Scatter caustic lime over anthills.

Lawn—Keep the grass in a fine thick mat by cutting often—at least every fortnight. Do not allow grass or weeds to grow about the trunks of small trees, particularly those newly planted. A circle of from three to six feet in diameter, with the trees as a center, should be kept well hoed or raked over. Cut the turf smooth and even, in a true circle, and remove the earth around the edge for a few inches in depth, rounding it slightly about the trunk. To make it still more ornamental, a few verbenas, petunias, salvias, or other flowering plants, may be sparsely planted upon the mound. They will injure the tree far less than the closely matted roots of different grasses. If the grass has a weak, unhealthy appearance, give a top-dressing of bone sawings, guano, or a sprinkling of liquid manure.

Oranges, Lemons, Oleanders, and Myrtles—Plant

out in the open borders, *f*, *m*, or place out in their tubs.

Potted Plants will need frequent waterings, unless turned out into the border. Shield from high winds.

Roses, as remarked above, are the pride of the garden in June. Prolong the flowering period by cutting back strong shoots as soon as the first bloom is over. Even June roses will frequently flower again with this treatment, while the perennials are greatly benefited by it.

Rose bugs and slugs will be troublesome unless kept in check. Dust freely with lime, or syringe with whale-oil soap. Repeat the application until all are destroyed.

Transplanting many of the early sown flowers is now in order. Select a cloudy day before a rain, if possible, and take up plenty of earth carefully with the roots, using the trowel, and the plant will receive very little check. If done in dry weather, water freely. The best plan is, to make a hole, and pour in a large amount of water. Set the plant into the water, and as it settles away, fill in earth. Let the last half inch be dry soil, which will prevent baking.

Verbenas and Petunias now make a fine show if a good collection was put out last month. They may still be planted, *f*. By pegging down the verberna, a large mass or mat can be formed from a single plant.

Water trees and flowers recently transplanted, if the month prove dry. Nature's own showers are best, however, and a good stirring of the soil to help draw moisture from below, and retain that which falls upon the surface, will usually answer all purposes, except for transplanted shrubs, trees, and flowers, or for newly turfed edgings.

Green and Hot-Houses.

The principal occupants of these houses now grace the flower plots and borders, leaving very little to be attended to in-doors. Propagators still retain some of the tropical plants, and others which they are multiplying as fast as possible. Cuttings strike more readily inside, where moisture and shade are regulated at will. The remaining plants require an abundance of air, and should be watered frequently. It is now time to make provision for a stock of Winter blooming plants. Unless cuttings are put in soon, the plants will not have sufficient age and vigor to flower freely. A good supply of materials for potting soil should also be collected. Such compost or mixture is better after laying several months.

Camellias do quite as well in the open border, to which they may be carried, *f*. If retained on the shelves in the house, water and syringe often. Watch for and check the approach of insects. Cut back to a bushy well formed head.

Cuttings of Chrysanthemums, Myrtles, Hydrangeas, Fuschias, Geraniums, etc., intended for blooming next season, may be made and potted, *f*, *m*.

Geraniums are in full flower, and should be watered freely. Insert cuttings and make layers to increase the stock of desirable kinds.

Grapes—The early houses will now be ripening their fruit, and the syringing overhead must be omitted. Some of the later crops need a further thinning, while others, with little forcing, are just setting fruit. Pinch back bearing shoots to three leaves, at most, beyond the bunches, and rub off superfluous shoots. Air freely; water as required.

Layer and Inarch woody and other plants which do not root readily from cuttings.

Potting—Many of the rapidly growing plants will now require more room, and should be transferred to pots of a larger size. Have a good supply of properly prepared potting soil at all times in readiness. Two parts leaf mold or well decomposed muck, one part garden loam, one part fine sand, and one part finely pulverized and well rotted manure, make a good soil for potted plants.

Seedlings of sufficient size should be transplanted either to small pots or set in the open borders.

Verbenas and Petunias—Make early preparation to increase the supply of young plants by layering and putting in cuttings for in-door blooming next Winter.

Water—Give as may be wanted. A little may be necessary night and morning upon plants in small pots in a dry atmosphere. Examine after rains to see if drainage is perfect.

Apiary in June.

BY M. QUINBY.

Bees increase rapidly in this month; any stocks failing to do so, should at once be examined. If the cause be diseased brood, drive them out into an empty hive, to commence anew. If from want of a queen—unless the colony remains pretty strong, which is hardly likely—it is best to drive out the bees, and unite them with some other stock. Save the hive and contents for a new swarm. Fumigate the combs, to destroy the worms that will be at work now. It will have no bad effect on the bees. I have used a hive for a new swarm within twenty-four hours after smoking it, with good results. If a queenless stock has bees enough to defend it from the moth worm, till you get a small swarm—second or third—containing a queen, the latter may be introduced with the bees already there; sprinkling the whole with sweetened water, or introducing a little tobacco smoke, to prevent quarreling. They usually unite peaceably, but not always.

Bees will swarm more, proportionally, in small apiaries, than in large ones. It is quite common to average two or three from a stock. If the increase of stocks is a greater object than surplus honey, small swarms may be kept separate. When surplus honey is the leading object, the after swarms should be united, until powerful colonies are obtained. The season must be extraordinary, when stocks can be greatly multiplied, with a great yield of surplus at the same time. The system of no colonies except strong ones, is much the safest, as in seasons of even less yield than usual, such provide sufficient winter stores, and often surplus. On the other hand, small colonies, without a good yield of honey, seldom get winter stores. In the swarming season it is impossible to tell what the last of the season will be, and it is bad economy to keep a great number of small swarms, without being prepared to feed them up to the proper condition, or to sacrifice them. The inexperienced would do better to take the safest path.

The first issue from a hive is usually large enough for a good colony; the second half as large, the third a quarter; consequently two of the second, and four of the third will be needed together, to make a swarm equal to the first. The time of issuing, whether the first or last of the month, should have some influence in governing the size of the swarm; as a second swarm the first of the month, would be about equal in value at the end of the season, with a first swarm issuing a month later. Third swarms should not be hived alone—unless in some rare cases—but should be either joined with some other, or returned to the parent stock. Swarms that issue on one day, may be united with little risk of quarreling. One day intervening will increase the liability, and two still more, and three or four days apart is as long a time as it would be likely to answer for most bee keepers to undertake uniting them. When they do not agree, a good sprinkling with sugar water will have a pacifying effect; tobacco smoke blown among them, will answer in most cases.

To return a swarm to the old stock, and have but little trouble with it afterward, it is best to hive it first, and carry near the old stand, and let it remain till the next morning, when all the queens but one will usually be destroyed, as well as the supernumeraries in the parent hive. Shake out the swarm, and look out and secure the queen, then put a few bees at the entrance, with something on which the rest may creep there, and they will all readily enter.

Two first swarms, when hived together, are in value about two-thirds of what they would be if

each were separate. Together, they may store a little more surplus honey, but one of the colonies is lost, as such stock next Spring is of no more value than a single swarm. When two or more swarms issue at one time in the same yard, they may join. If one has clustered, the next, when flying near, will often settle with it. If a swarm is being hived, another seeing it, is almost certain to go in also. These things can often be prevented. When one swarm has commenced flying, and there are indications that another will start before the first is hived, sprinkle the last thoroughly with cold water, before any leave, to keep them back. If the first has clustered, or is in process of being hived, cover with a sheet to keep out of sight. If two large swarms do actually cluster together, divide as nearly equal as possible, in hiving, and set the hives 20 feet apart as soon as the bees are in. If each has a queen, they will remain quiet, if not, they will gather into one hive, a few going at a time, when the operation of dividing must be repeated. Should it be decided to leave them together, it is not desirable to get a larger hive in consequence, but give additional room by putting on the surplus boxes immediately, and if still more room is needed to accommodate the bees, an empty hive, inverted under the first, will be sufficient for a few days, until they get established. This last *must not remain* until the combs are extended *down into it*. Very large swarms have no more bees at the end of a few months, than colonies of the proper size.

Remove all swarms to the stand as soon as the bees are in, and shade for a few days, raising *one side* of the hive half an inch.... Boxes may be put on all very large swarms immediately on being hived. On others it is unnecessary until the hive is nearly full. Do not let any time be wasted by the bees remaining idle outside, for want of room to store honey in a season of plenty. The surplus honey is the leading object in bee-keeping; by neglecting this for a few days in the proper time, all the profits of the season may be lost. The loss is not only what would be collected during the time of the neglect, but what they might subsequently store, if they only had a beginning. The bees of old stocks will rapidly enter the boxes, as soon as they are crowded in the hive. The first swarm is not delayed by additional room, as long as they are crowded.

After-swarms are not affected at all by adding any amount of room. After-swarms usually issue from the 8th to the 13th day after the first. They need not be looked for later than the 18th.... It is said that the swarming season is the best in which to introduce the Italian queen to the native bees—that less trouble and risk will be incurred than at any other time. Remove the queen that issues with the swarm, which should be the first from the stock. She may sometimes be returned to the *old* hive with advantage. Confine the swarm a few hours, until they fully realize their loss, when the Italian substitute may be introduced. I have introduced only one in this way, but succeeded without difficulty. Bees confined in hot weather, should be secured with a thin cloth, and kept in a cool place.... Put up a box near the hive for the wren to nest in; he will destroy a multitude of the moth worms.

Massachusetts Agr. Reports.—The Annual Report for 1860, of the Mass. Board of Agriculture, prepared by their accomplished and indefatigable Secretary, Chas. L. Flint, was placed upon our table, May 1st, and 6000 copies were distributed through the members of the Legislature to their constituents, a month earlier. This is the first State Annual Agr. Report for 1860, which has yet appeared, and the promptness is worthy of imitation elsewhere. It is a carefully prepared work of 564 pages, and contains much information of practical utility. The 86 pages devoted to the "Cattle disease" will be matter of very general interest, as it gives the whole history of the disease, its treatment, etc. Lengthy and valuable reports on Sheep, and Horses, are given. Shorter Reports on Mules, on Flowage of Lands, complete the first half of the volume. The second half is devoted to reports from the several County and Town Societies of the State statisticians, etc. The whole work is a valuable contribution to our Agricultural Literature.



Into which are thrown various useful or interesting Items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Read First the article on page 167, then look through the Calendar, and see if there is not something more you plant or sow at once.

The Special Premiums offered by the Publisher, on pages 192, close this month. Look at them again. Note also the special Seed premiums on page 188, and the business items on page 189. The Standing premiums are yet continued, for which see page 186.

Mr. Bishop's Premium House Plan.—To several inquirers. This premium offered in our Dec. No., was awarded by the committee to Albert C. Nash, Milwaukee, Wis. We expect to publish the plan, but have preferred to wait until the structure is so far completed, that any modifications or improvements introduced during the erection, may be shown with the engraving.

Letters for "John Smith."—A correspondent writes: "We had a good laugh at two of your subscribers last week. They had complained because their seeds were not forthcoming, as they sent the seed envelopes all right, they said, some two months ago; but last week they were returned, and it came out that they had been sent to 'John Smith, Albion, Monroe Co., Iowa'!!!" The address being copied from your sample seed envelope. Strange to say, John refused to send the seeds. Please notify him that his chance in these parts at next election will be slim, in consequence of his rash act."—A careful reading of the printed directions for sending for seeds, would have saved several subscribers some trouble. The sample seed envelope was intended only to show parties where to write their own name and address, on the envelopes sent for seed. We are under obligations to the Postmaster at Albion, Iowa, for having kindly forwarded a number of such misdirected letters.

The N. Y. State Fair for 1861 is to be held at Watertown, Jefferson Co., Sept. 17th to 20th, inclusive. Premium lists can be obtained of the Secretary, B. P. Johnson, Albany, N. Y.

Cotton in Utah Territory.—Thomas Bullock, of Great Salt Lake City, sends a good sample of cotton, and writes: "Last Spring I received through the 'Agriculturist Seed Distribution,' a parcel containing 34 seeds of Sea Island Cotton, and 33 of the Petty Gulf variety. They were placed in charge of Hon. Wm. Crosby, at Santa Clara, in the south part of the Territory. The Sea Island did not succeed, but the Petty Gulf produced exceedingly well, and proves to be far superior to any other variety raised in the county. From these 33 seeds, about 8 lbs. of seed were produced, or enough to plant an acre, and worth at least \$35 here, this year. Mr. Crosby raised cotton for 35 years in Mississippi, and he pronounces the result with this seed very satisfactory. He feels confident that there is good cotton land enough in that single county to raise a supply for the whole Territory. The cotton region is limited to narrow strips of land that can be irrigated, along the Rio Virgin and Santa Clara rivers; the general features of the country are barren deserts and mountains, unfitted for any kind of cultivation. About 50,000 lbs of cotton were raised in Utah Territory last season, but lack of sufficient machinery as yet prevents the manufacture of all that can be grown in the Territory."

Oats on a Wheat Head.—Francis Schreiner, Moss Grove, Pa., sends us a slip from the June (1854) Penn. Farm Journal, (which was merged into the *American Agriculturist* in 1857,) in which he gave an account of a head of Spring wheat, upon which were four large plump oat grains, growing among the wheat kernels. The head was kept in a bottle for a number of years, and was examined by many persons, so that there could be no mistake about the facts. The only way we can account for the circumstance, is, that as the wheat grew alongside, or in contact with the oats, parts of two heads may have grown together, after the manner of inarching, or grafting by approach, just as we sometimes see two different trees in a forest partly united. Mr. S. does not, however, advocate the idea that wheat will turn into either oats or chess. His motto is: "put clean seed on a clean soil, and a clean crop may be looked for." We see also by the printed document before us, that Mr. S. is ahead of us; for so long ago as 1854 he offered his farm to a transmutationist neighbor, if he would change a patch of wheat into chess.

For Corn Pulling Birds.—Kernels of corn strung on horse hair six or eight inches long, are very

annoying to crows and blackbirds, and they generally quit the premises, after devouring one or two kernels thus prepared. White strings or cotton twine, stretched around the field on stakes, are suggestive of traps and snares, and are among the cheapest and most effective scare-crows. Smearing corn with tar, and rolling it in lime, not only renders it unpalatable to birds, but promotes its growth, and is at least a partial preventive against smut. A little corn, soaked in a solution of strychnine and water, and scattered around the field, is generally fatal to birds, ground squirrels, gophers, and vermin. As much strychnine, as will lie on a dime, is enough for a quart of water, which will soak two quarts of corn, or more. Great care should be used in handling strychnine, as it is a powerful poison. Common arsenic will answer, though it is much less effective than strychnine.

Young Corn Stalks for Milk Cows.—Geo. S. J. Oliver, Hamilton Co., writes that a neighbor who fed green corn stalks abundantly last season, found that the cows *decreased* in milk. This is the only instance of the kind we remember to have heard. It is not improbable, however, that when corn is sown thickly broadcast, the stalks may be too small and watery for substantial milk-producing food. We believe it is preferable to plant the corn in drills, and let the stalks get well grown before feeding. Planted this month, (June), the stalks would acquire considerable size and consistence by the last of August, when most needed for feeding.

Cheap Corn Planter.—C. B. Osborn, Fountain Co., Ind., uses a corn planter made as follows: A light frame, similar to the beam and handle of a plow, are mortised together, with the upright piece extending only to the beam. The beam extends about four inches back of the upright, and a large hoe is attached to it. It is drawn by a horse, the hoe being lifted at each hill to cover the corn. It can not well be used on stony ground.

Selecting Seed Corn.—Our practice is, to select only from stalks having two or more ears, and to reject in planting the small, imperfect kernels at the butt and top end. The stalks from the small kernels will not be as large and vigorous, as those from the large, perfect kernels. If this selection adds only two bushels to the yield per acre, it pays well for the trouble.

Chinese Sugar Cane.—This may be forwarded in the Spring, by draining or subsoiling the land, by plowing concentrated manure in the hill with the seed, and by having well ripened seed. The season may be lengthened at least two weeks by these precautions. It is important that the crop should have good, rich land, so that it may not be stinted for want of nourishment. Frequent stirring of the soil with the cultivator or hoe will also aid.

Grass for Prairies.—Kentucky blue grass does well upon the prairies, and so does herds-grass, which for large yield and good quality, stands among the first of our cultivated grasses. Deeper plowing will remedy the drying up, of which our correspondent complains.

Red Top makes only a second rate hay. It is very much better to sow Timothy, or herds-grass, wherever it will grow. This is of the first quality, and is highly relished, both as grass and hay.

When to Cut Grass.—Ferd. Dieckmann, Saginaw Co., Mich. Grass yields the most nutritious hay, when cut just as it passes out of flowering, and the seed is commencing to form. It will need more care in curing than if left to ripen the seed, as it contains more moisture. The molding you complain of probably resulted from storing it before fully cured.

Coal Ashes—Borers—Cranberries, etc.—Jas. Slaven, Morgan Co., Mo. Notes on all these subjects, containing the information asked for, have been given in the former numbers of the present year; and we can not so soon repeat them.

Cider Pomace for Manure.—"D." Water town, Conn., writes that cider pomace, used as manure on an adjoining farm, was injurious to growing crops for three years, or more. It was spread and plowed in on a field devoted to corn, which proved almost an entire failure. Those places were poorest, where the pomace had lain in heaps before spreading. The remaining acid of the apple probably caused the injury; this might be neutralized with ashes or lime. "D." thinks the best use for pomace is to spread it in pasture ground, to be eaten by cattle. Milk cows should have it only in limited quantities at first.

Gas Liquor.—Charlotte Co., Va. The water used for purifying the gas manufactured in cities and large villages, contains considerable quantities of ammonia, and when it can be conveniently applied, would probably be worth securing; but we have no data to judge whether the percentage of ammonia is large enough, generally, to

make it worth while to transport the liquid far for a fertilizing material.

Amount of Plaster per Acre.—Wm. D. Belden, Jackson Co., Mich., writes that in that vicinity only 40 to 60 pounds per acre is sown, that amount being considered as beneficial in its results, as more. They procure it from Portage, O., and Grand Rapids, Mich., the latter being rather most highly esteemed. This amount of the best plaster may do much good, but we should not stop short of at least 100 lbs. per acre, and we have known 500 lbs. applied with decided advantage: it was perhaps a poorer article.

Spent Tan Bark as a Manure.—Joseph F. Brown, Providence Co., R. I., and others. Simply as a manure by itself, we should attach little value to spent tan bark, though if composted with lime until rotten, it would doubtless be as good as cheap manure, or leaf mold. But tan bark is excellent as a mulch on the soil around trees, strawberry plants, etc. It is also good as an absorbent to compost with yard manure. When thus applied to the soil, it aids in keeping it light, and in its ultimate decay acts partially as an organic manure.

Onion Maggot—Preventive.—W. E. Newton, Hillsboro Co., N. H. We have no faith in secret remedies, for which a large bonus is asked. A correspondent of the N. E. Farmer saved most of his onions by mixing $\frac{1}{2}$ lb. powdered sulphur with one pound seed, and sowing it together in a drill. The onions not so treated, were badly injured. Try the experiment by sowing a little along the row while they are quite small.

Whale Oil Soap.—The Gardener's Monthly gives the following directions for making this efficient compound for the destruction of insects: Render common lye caustic, by boiling it at full strength on quick lime; then take the lye and boil it with as much whale oil foot as it will saponify (change to soap,) pour off into moulds, and when cold, it is tolerably hard. Whale oil foot is the sediment produced in refining whale oil, and is worth \$2 per barrel.

Apples for Minnesota.—Henry A. Monser, Minnesota, inquires for a list of apples which will bear well in that State. He writes that there has been very poor success with this fruit, some having had trees planted 14 years without any return worth mentioning. Will some reader in that section, who has done better, please give the desired information. No reports were received from Minnesota for the list published in the *Agriculturist*. The lists from Wisconsin will be the nearest to your wants.

Hardiness of Grapes.—Hiram Sibly Esq., of Rochester, N. Y. (lat. 43°), has 8 varieties of grapes, 3 years planted, in a well prepared border, on ground sloping a little to the north, the vines in a row 4 to 6 feet high, supported by a trellis running north and south. The ends of the lateral branches were cut off in Autumn, but the vines left fastened to the trellis unprotected during Winter. The editor of the Rural New-Yorker examined them the middle of May and reports thus: *Hartford Prolific*, entirely killed to within six inches of ground—the *Rebecca* killed to within one foot of the ground; below this buds starting—*Isabella*, *Catawba* and *Diana*, killed to within 3 feet of ground, and all side shoots killed to one bud at base.—*Delaware*, *Northern Muscadine*, and *To Kalon*, wood all sound and buds breaking. . . . Seven other varieties, two years planted, two to three feet high, stood as follows: *Garigues*, killed nearly to ground—*Clara*, and *Raabe*, ends of lateral shoots injured, but two or three buds nearest base breaking finely.—*Concord*, *King*, *Logan*, and *Northern Muscadine*, all uninjured.

The Delaware Grape Productive.—Mr. Charles Downing, of Newburg, writes that he planted, five years ago, one each of the *Rebecca*, *Raabe*, *Delaware*, *Hartford Prolific*, *Concord*, and *Elisburgh* grape, in a continuous row, the cultivation, etc., being the same; and, so far, the Delaware has yielded more fruit than any one of the others. Mr. D. also places the Delaware at the head of the list in flavor.

Grape Stakes.—The Farmer and Gardener says, small cedar trees of symmetrical form, make excellent stakes or trellises for grape vines. Cut them down, thin out the smaller branches, but carefully preserve the main ones, cutting them to a pyramidal shape. When covered with vines they are quite ornamental.

Cherry Currant is probably a spelling. It has been in cultivation in this country for a dozen years, or more. It is considered by our best pomologists as too sour for the table.

Strawberries in Hills.—Samuel Rolfe, Cumberland Co., Me., writes that from a bed of strawberries,

(Hovey's Seedling and Boston Pine,) 11 by 14 feet in extent, he gathered 42 quarts in a single season. A dense fog, which set in about the time they were fully ripe, prevented picking enough more to make the amount at least 50 quarts. 342 ripe berries were taken from one hill. The bed was set out in the Fall two years previous; the plants put in hills 18 inches apart, and the runners kept constantly clipped. He favors this method of cultivating strawberries.

Quinces in March.—M. St. John, Medina Co., O., states that he has a variety of quinces, which keep until March. This is unusual. No mention is made of the quality or other characteristics of the fruit.

The Green Rose, noticed in the *Agriculturist*, Vol. XIX., page 366, Dec. No., is claimed by a writer in the *Gardener's Monthly*, to have been first introduced to the world by a Baltimore florist, about seventeen years ago. The plants were then sold at \$2.50 each. He also states that a Philadelphia florist sent it to England and France in 1852. It did not prove popular here, its novelty being about its only recommendation.

Nursery Catalogues.—The farmer's or gardener's library is incomplete without a good collection of Nursery and Floral Catalogues. These publications, of late years, are something more than mere price lists; they often contain condensed botanical, and practical information, which could be obtained only by consulting and comparing numerous authorities inaccessible to the general reader. One of the most complete we have met with has just been issued by the Bridgemen of this City. It comprises eight distinct lists of flower, vegetables, fruit and ornamental plants, neatly bound together, and is valuable merely as a work of reference. We have frequent occasion to consult its pages.

Books for Farmers.—Thomas H. Williams, Co., Minn. In our advertising columns, page 191, is a list of good works on most branches of husbandry.

Composition for Roofs—Roman Cement.—Thomas Stokes, White Co., Ill., writes that he has a recipe for a roof covering, consisting of 8 gallons tar, 5 lbs. rosin, 3 lbs. tallow, and 2 gallons of "Roman Cement;" he inquires where the last named article can be obtained. Roman cement is simply a good quality of hydraulic cement, (often called water-lime), brought from England. It is sold by importers in this city at about \$5 per barrel. For most purposes, we doubt whether it is superior to the best Rosendale cement, which can be obtained here for about \$2 per barrel, or less if in quantity.

Leaky Roofs.—Mrs. L. A., Chester Co., Pa., inquires for something that will not peel off, to apply to a rusting iron roof, beginning to leak. Good paint will not peel, if its "life" is not killed by too much "patent dryer," or other material. A slow drying oil paint is most durable. We like and use Ellery's India Rubber paint, which is similar to any common paint, with the addition of a mixture of India rubber and gutta percha worked in. An out-building, covered with shingles, which leaked badly one year ago, we covered with cheap cotton, and applied two coats of Ellery's paint. It stands well, and sheds water perfectly.

Novel Mode of Churning.—A newspaper item, (which is of course true!) says that in Chili churning is done thus: The cream is put in bladders, and these are tied together and swung over the back of a mule. The animal is then kept trotting around the yard until the butter "comes." Whether it would be easier to keep a mule "trotting" than to work a churn dash we are not able to decide. What say the air-compressed-double-action-force-pump-churn men to this plan of churning in air-tight bladders?

Milking Machines.—C. Mitford, Addison Co., Vt. We know of no apparatus for milking superior to an old fashioned one, used on the homestead farm in our younger days. It was a most ingenious contrivance, having pads and levers opening and closing alternately, so that the milk was drawn rapidly and perfectly. It would take too much space to describe it accurately—it was called the *hand*.

Canada Thistles.—James R. Clark, of Waverley, gives the following method to eradicate them. Cut them close to the ground, pour brine on the stubble, and turn in cattle or sheep. The animals attracted by the salt, will perform a second grubbing, and make thorough work with them.

Warts on Horses and Cattle.—According to Dadd, these are best cured by tying a stout thread around them. He gives directions as follows: "Take a common suture needle, and arm it with a double ligature; each ligature to be made of three threads of saddler's twine, well waxed; pass the needle right through the center of

the wart, close down to the skin; tie each half separately with a surgeon's knot, as tight as possible; cut the ends pretty close to the knot, and in the course of a short time, the whole will drop off. A single ligature will do for warts with a small base." Tincture of aloes and myrrh will remedy bleeding, and powdered charcoal and blood root, in equal parts, are good for ulcerations.

Administering Medicine to Horses.—J. G. O. writes that on one occasion he had a sick horse, to which a New-York carman administered medicine from a bottle by elevating the animal's head, and pouring the dose down his nostril. There is a passage down the throat by way of the nose, but it was not intended for any such use, otherwise the horse would naturally drink through his nose. In cases of lock-jaw, liquids are sometimes given in this way by veterinary surgeons, but except in such cases of necessity, always use the natural road to the throat, through the mouth.

A Large Horse.—Chas. L. Hilbourn, former editor of the Morgan County Clarion (Ind.), referring to a late item in the *Agriculturist* about the largest horse in the world, sends us a slip from his paper describing a horse exhibited at the Ohio State Fair, in Sept. 1855, called "Rocky Mountain Chief," which at 4 years old weighed 2,500 lbs., measured 11 feet from head to tail, and stood 21 hands high. Can any one tell where he is, and how large he is now—if alive?

Chester County Hogs.—C. J. Warren, Rockingham Co., N. H. This breed of swine is as distinct as the Suffolks, Berkshires, or other varieties. The marked points are, white hair, thin skin, length and depth of carcass, small offal, and ease of fattening. These characteristics have become confirmed in this race by great care in breeding for more than 20 years past. They originated in a pair of Bedfordshire hogs, which were crossed upon the best of native stock obtainable by their owner, Paschal Morris. Their reputation is now fully established.

Ring Bone.—James J. White. This disease is of the same nature as spavin, only situated in a different part of the horse's leg, and may be treated as recommended on page 72 (March No.)

Feeding Sheep in Winter.—A subscriber in Wisconsin gives as his list of fodder and condiments, "corn, oats, wheat bran, lime, ashes, tar, salt, barley, rosin, and sulphur." He complains that 7 out of a flock of 192 died, eating heartily to the last. There are many causes of disease among sheep besides an improper diet. Sometimes they are kept in too close quarters, and die from want of cleanliness and ventilation. Sometimes the soil is too wet. Sometimes they die from excess of fat. We should add to this bill of fare, a few roots—carrots, or turnips—fed daily. They act favorably upon the bowels, and promote the health of the flock.

Sheep and Dogs in Massachusetts.—The sheep in Massachusetts numbered 378,226 in 1840; but they decreased to only 11,311 in 1860. In 1850 they numbered 188,651, and produced 585,000 lbs. of wool, while the manufacturers of the state consumed 22,000,000 lbs., outside of domestic or household products. The returns from the various towns, almost without exception, attribute the decrease in sheep in great part to the killing and worrying of dogs. The benefits of the stringent dog law passed two years ago, are beginning to be perceived. All dogs are taxed, and from the fund thus obtained all losses caused by dogs are paid.

Lice on Cattle.—James C. Wallace, La Salle Co., Ill., writes that lice on cattle can be destroyed by washing the infested animals with water in which unpeeled potatoes have been boiled. He says two or three applications are sufficient. It is easily tried.

Cholera in Hens.—Mrs. W. C. Vail, Jefferson Co., Ind., inquires how to treat hens affected with a disease resembling cholera. We have never seen any thing of the kind. Some of our readers may be able to advise in the matter.

Mixing of Potatoes.—J. Reeder says, in the Farmer and Gardener, that during fifteen years experimenting with potatoes, he has never known them to mix in the hill, and he pronounces it impossible.

Squashes versus Pumpkins.—The former is much the better article. The Hubbard squash is not only an excellent dish for the table, but superior fodder for cattle—though less can be grown on the same ground.

Beach or Sand Plum.—M. Brown, Dukes Co., Mass. Stocks of the above will answer for grafting the cultivated plum upon, but they must be planted in a light sandy soil. Other stocks are preferable, however, and the beach or sand plum is of little value as fruit, in comparison with finer sorts.

The War, and Farmers.

The effects of the War upon Production—The Prospective Demand—The Certain Prospect of High Prices—What should be Done at Once.

Our office windows open directly upon the City Hall Square, and its extensive barracks, where are gathered the hosts of armed soldiers that start from this point southward. Almost every day we witness the arrival and departure of one or more regiments of 800 to 1000 men each. A large number of these troops are stalwart men, who have come from the farms of New-York and New-England. In the middle States and at the West, a still larger proportion of the volunteers are tillers of the soil. It is safe to estimate that in the Northern States alone, more than 50,000 able bodied men have already been withdrawn from the labors of the farm, (to say nothing of at least four times as many more drawn from other occupations,—all of whom must be fed, by the way.)

It is below the mark to reckon the average annual result of the labor of each of those men leaving the farm, as equivalent to 1000 bushels of corn. (The aggregate result is the same, whether a man raise corn only, or say 150 bushels of wheat, 200 bushels of corn, 10 tons of hay, 100 bushels of potatoes, with small quantities of oats, barley, peas, beans, etc., for these taken together are equivalent to the 1000 bushels of corn. He would be a poor laborer indeed who could not, without aid, produce the amount here indicated.) We then have, as one result of the withdrawal of 50,000 men from agriculture, a diminution of the products of the soil equivalent to at least 50,000x1000, or *fifty million* bushels of corn! Hundreds of thousands, perhaps millions of acres in the immediate vicinity of the seat, or seats of war, will be only partially tilled the present season. These, with other disturbing causes will, at the best, tend to greatly reduce the aggregate farm productions of the present year; and the inevitable result will be an increased demand and higher prices for all that is produced from the soil.

Looking abroad, we find a large deficiency of breadstuffs still to be supplied from this country. Since the last harvest, more than thirty million dollars worth of our wheat, flour, and corn, have been exported, and this, too, while the purchasers have had their own crop remaining to draw upon. With continued peace in Europe, the demand for our breadstuffs must be large for many months to come. But there, as here, vast armies are being raised; almost all of Europe is being placed upon a war footing; and on the other side of the Atlantic, the signs of the times are portentous of a Continental war.

As we are importing comparatively little, and shall import still less for some time to come, our breadstuffs sent abroad must bring back large amounts of hard coin to be added to our present specie reserves, which are already larger than at any former period. Over fifty million dollars are now lying in the bank and Sub-Treasury vaults of this city alone. This money, which has lain partially idle, owing to the stagnation of business for some time past, is now beginning to move. Within a few months it will have been absorbed by loans to the General and State Governments, paid out in war expenses, circulated through the country, and in part returned to the bank vaults, to again go through the same round. In its course, most of this money will pass through the hands of the producers, partly for the direct purchase of army

provisions and forage, and partly for food to supply those engaged in manufacturing and furnishing implements, equipments, and other incidentals of the war. A hundred millions at least will be expended by the General Government alone, within the present year, in addition to its usual current expenses. The rapidity of circulation will, in its effects upon business, make this sum equivalent to two or three hundred millions in ordinary times. The agriculturists will reap a golden harvest from the strife and commotion of the times, and leaving out of consideration the motives of patriotism, which should incite them to do all in their power to produce unstinted supplies of bread, corn, meats, and other provisions for those who go forth to fight the battles of the country, self interest should prompt them to spare no effort, no skill, to raise the products of the soil to the highest possible limits the present season. The planting season is far spent—is just at its close—but let us see

What can still be Done to Increase the Products of the Soil this Year.

THE WHEAT AND RYE FIELDS.

These are too far advanced to do much with them now. Still, plaster, or lime, and especially guano, sown as top-dressing, will improve the growth and final yield. The re-opening of ditches, or dead furrows, to let all water off from low spots, will often do much to warm the soil and hasten the maturity of the crop, and quite possibly save it from rust and the later insects. Harvest will be a precarious time; the absence of 50,000 laborers at that time will be a serious hindrance. A reaping machine of his own, or the positive engagement of one from a neighbor, will be important for the grower of 10 acres or upwards. Any delay after the exact season for cutting, that is, just when the kernel is beginning to harden, is a loss of a dollar a day on each acre in the value of the crop, including its quality, weight, and the loss by shelling. "Hay-caps," (that is, pieces of coarse strong cotton, 1½ to 2 yards square, with loops at the corners for pinning down with pegs,) are quite as valuable for the grain harvest as for haying. Provide a lot of these early; use them over the hay cocks; and have them ready to spread over the shocks of wheat, rye, and oats. They will shed off the rain, and very likely save the grain in good order. These caps will generally pay for themselves in a single season, while they will last for years.

PLANT CORN NOW.

This should be the great business previous to the 10th of June—the earlier now the better. Replant any missing hill in fields already up. Seek out the nooks and corners, and wherever a hill can be made to grow, drop in the seed and cover it. Any spare pasture, any poor spots of meadow, may still be turned over and planted to corn. The more manure you can mingle with the soil under and around each hill the better. Look under the poultry roosts, in the corners of the barn yard, behind the horse stables, in the corner where the cows rest at night, under the privies, and wherever a shovelful of manure can be found, gather it up, and get a little into as many corn hills as possible. The work will pay. The good ears of corn next Autumn will bring the cash directly, or make pork or beef which will sell for cash. By going to bed soon after sun-light is gone, with a light supper, so as to sleep well, and then starting an

hour earlier in the morning, one may go out with a hoe in one hand, a basket or barrow of manure in the other, and a pocket full of seed corn; and during the hour thus gained, put in extra hills enough to bring two or three bushels in Autumn, worth a full dollar or more to the grower, and more than that to the country. The Improved King Philip, Rhode Island Premium, the Dutton, or other smaller quick growing varieties of corn are preferable for planting at this late season. Hoeing and cultivating the growing corn well, is important to its yielding well. Weeds and grasses abstract from the nourishment and life of the corn. Plaster, ashes, Peruvian guano, etc., in or around the hills, promote growth. Lime, or wood ashes, are excellent in the hill, on fresh sod land.

PLANT BEANS.

Beans constitute an important item in the soldiers' fare; they contain a large amount of nutriment in a small bulk. The common field, or the small white kidney bean, can now be planted with entire safety. The waste places among corn, potatoes, etc., should be sprinkled over with beans, or other quick growing crops. Beans can also be planted between the corn hills, and on land too wet to use until now. They will flourish on a poor dry soil, where few other valuable crops would eke out an existence. By all means increase the quantity of beans planted. They are good, substantial, cheap food for the home table, and will save many bushels of wheat for the market. We must, hereafter, give a chapter on the right method of cooking them to make them palatable, easily digested, and nutritious. If always thus cooked, they would be far more popular.

SOW BARLEY AND BUCKWHEAT.

Buckwheat need not be sown until July, but barley usually succeeds well when sown early in June. Besides, barley forms a pretty good substitute for wheat, in case that crop is cut off, or is in demand at extra prices. Who is not fond of a good, light, warm barley loaf—and of buckwheat cakes. How would it work to have barley, buckwheat, and garden truck enough to about support the family from six to ten months, and sell all the wheat, and corn, and most of the beans, and pay up the debts on the farm, and at the stores, this year?

TRY A SOILING CROP.

A lot of corn stalks, millet, sugar cane, or other forage, to be in part cut up green and fed to the cattle, horses, sheep, and swine, in the dry season, and in part cured like hay for winter fodder, will increase the yield of milk, and butter, and cheese to sell; will keep the animals in good heart for labor, or for increasing in weight of meat; and will save hay to exchange for cash. Plant in drills, or sow, all you can of these crops, the first, second, and third weeks in June.

DON'T FORGET THE TURNIPS.

We have not so high an opinion as some others, of the value of turnips for this country; yet they are not to be despised. They cost next to nothing, and are undoubtedly good for all kinds of animals when fed with dry forage during all the Winter and Spring. Scatter the seed on every vacant spot, alone or among other crops, wherever there is room for a root to grow and the top to spread, without interfering with something more valuable. The quick growing sorts, such as the Red Top Strap-leaf, may be sown for two months or more yet. Ruta-bagas, or Swedes, may be sown any time this month,

the earlier the better. The Long White French, Ashcroft, and others, may be sown in June or July. A little seed, a little hoeing or weeding, and a little soil, will turn out several loads of nice turnips about the time frosts come on. (If you can not get seed elsewhere, look at the Publisher's Premiums on page 188.)

AND NOW FOR THE GARDEN.

So much for the field. There is scarcely a garden vegetable that may not yet be planted or sown. Many of them do better put in now than earlier. Turnips, beets, carrots, parsneps, Lima and other beans, lettuce, spinach, sweet corn, cucumbers, squashes, cabbages, egg plants, peas, tomatoes, etc., may all be sown or set out at any time before the middle of the month, and several of them until late in July, so that not an inch of ground need be idle.

Again, much may be done by way of arranging to secure the most from a little space. Cucumbers and squashes can be put by the side of early potatoes or peas, which will be out of the way by the time the vines begin to run. Late cabbages may be set among potatoes, corn planted among early turnips, pumpkins and squashes grown in the potato patch, etc., to economize the space as much as possible. After haying, even, the sward may be turned over for a crop of turnips. In the vicinity of cities, where there is a large market for garden produce, gardeners should not be satisfied short of two crops from each plot of ground, but to do this they must manure liberally and till well.

For the American Agriculturist.

Home-made Bone Manure.

Bones make one of the best fertilizers accessible to farmers and fruit-growers. The great objection to their use is the cost of reducing them. The ground or sawed dust is expensive. The super-phosphate prepared with sulphuric acid, is still more costly. To break them up with hammers is a laborious job, and the bones are still in quite too large fragments.

A correspondent wishes to know if it will pay to carry them to his market town and have them ground in a plaster mill. That will depend somewhat upon the charge for grinding. Those in the immediate vicinity of a good bone-mill should have all the bones ground that they can command, if the toll is reasonable.

The best method for reducing bones at home, is that first introduced to the agricultural public by Prof. Pusey, of England, and since recommended by Prof. Johnson, of New-Haven. The process, in brief, is to put the bones into a pile, filling the interstices with sand, ashes, loam, muck, or any fine material, and to saturate the pile with stale urine or dung heap liquor. About one third of the weight of bones is composed of cartilage and animal matter, which heats in the heap and breaks down the whole structure of the bone, making it a fine mass. It is better that the bones should be crushed with a sledge hammer, as the finer they are made, the more completely they will be reduced by the fermenting process. In forming a heap, a layer of muck, or good loam a foot thick, should be put at the bottom. Then scatter on a layer of bones a few inches in thickness, and put on just enough of the ashes, saw-dust, or other fine matter to fill all the interstices. The object is to bring the bones as closely together as possible, and to make the pile compact. When this is done, wet the whole with urine, or barn-yard liquor, and cover a foot thick with muck or loam, to

absorb the ammonia that will escape from the fermenting mass. In warm weather the fermentation goes on rapidly, and the bones will be decomposed in from two to six weeks. Such fragments of bone upon the outside, as are not reduced by the first operation, may be put up in a second heap. The bones in the center of the heap will be most perfectly decomposed, and the larger the heap, the more complete the disintegration. The process of fermentation may be ascertained by thrusting a bar into the heap. If the ammonia escapes, which will be indicated by the smell, add more muck.

Dead Animals for Manure.

In Spring and early Summer, farmers not seldom have carcasses of dead animals to dispose of, and which are often thrown away and wasted. Rightly managed, they would make excellent manure. The expediency of the common practice of burying them in a crude state among the roots of grape-vines and other gross-feeding trees, may be questioned. Rather, let them be cut up into small pieces, then stacked in the corner of some field or back-yard, scattering on a little lime and muck, or charcoal if at hand, as the pile goes up, filling all the spaces between with some absorbent material, and covering each piece before another is thrown on. The offal will slowly decompose, and the gases, instead of passing off into the air, a nuisance to all the neighborhood, will be absorbed and saved. In the Autumn, this heap may be broken down, shoveled over and mixed; it will then be a very valuable fertilizer. *

The Potato-Rot—Three Proposed "Sure Remedies."

The thousand and one "new and infallible" remedies proposed, from time to time, for the cure of this disease, have done so little to arrest it, that every one has come to feel suspicious of anything new. Among the older remedies, we know of none better than the use of ashes. A successful farmer, near the writer's residence, states that he has tried ashes for several years and with almost complete success, and he wants to speak of them to the readers of the *Am. Agriculturist*. His method is this: Shortly after the second hoeing, sow upon the vines a dressing of unleached ashes, using from two and a half to three bushels per acre. Repeat the application once in six weeks, until the crop is matured. Our friend, it would seem, considers the disease of atmospheric origin, or as caused by an insect in the leaf, and not at the root. But whatever the origin, he keeps the tubers sound by treating the leaf.

John B. Austine, residing near Warren Depot, Worcester Co., Mass., asserts that he has a positive remedy for the potato rot, and claims a right of discovery. He sent a box of seedlings, in good order, to the office of the *American Agriculturist*, on the 18th of April, and wrote: "They were planted the first week in May last year. Aug. 18, I put my feet on each side of the hill, and pulled the tops off. Pressing the soil down, the tops were thrown upon the hills, and not a rotten one was found in the 24 bushels gathered." He thinks the disease begins on the vine, and extends down to the bulbs, and that by stripping off the tops as soon as there is the least sign of rot, or black spots, the potatoes may be left in the ground any length of time, or until convenient to dig and store for Winter, without the slightest danger of rot. Mr. Aus-

tine says he has proved the utility of his process by five years of successful experiment. But perhaps the exemption of his crop has been due to other causes. If he will further test his remedy by pulling up only alternate rows, and if he then finds the rows left undisturbed, to be affected with the rot, while those treated by his method remains sound, the result will be somewhat conclusive. There is some plausibility in it, and it may be well for others to experiment with a few hills at least. If the vines are stripped off too early, it must lessen the yield. A few hills might be pulled at successive intervals of a week, and the results noted.

We find in the English "Mark-lane Express," of March 10, a communication from a farmer whose theory is somewhat similar to that of Mr. Austine. The English farmer concludes from microscopic examinations, verified by experiment, that the potato disease is a sort of minute fungus deposited at first upon the leaves and haulm (vines), which spreads with remarkable rapidity over both tops and roots, and finally destroys them. Last season, when the haulm had reached its full growth, early in July, he bent the tops over and placed earth upon them to keep them down. This was to prevent the rain from descending the vines to the roots, carrying the fungus with it. The portion of the field so treated, although a heavy clay soil, produced a good crop of potatoes, not one in fifty rotting, while those allowed to grow in the usual upright manner were a complete failure. The same thing was confirmed by his neighbors. In one case a neighbor, having no room for some planks, threw them upon his potato patch, and found, contrary to his expectations, at digging time, that those so covered were in excellent condition, while the others were badly diseased. As in the former case, the thousands of minute fungi or parasitical plants were washed into the soil at a distance from, instead of directly among the potatoes.

A Mole-Drain Plow.

G. McWhick, Franklin Co., O., communicates to the *Agriculturist* a description of a *mole-drain plow*, constructed by one of his neighbors, as follows: A strong steel bar runs down from a plow beam, to the lower end of which is strongly welded a tapering nose-piece, followed by a succession of cast-iron balls attached to each other and to the nose-piece by links. These balls increase in size to 3 or 4 inches, and leave an opening after them of the size of the largest ball, with the soil firmly pressed. It is run 20 to 24 inches deep, and is moved about 100 rods per day, with a horse and capstan. The mole-drains run into an open ditch. On a wet bottom-land, with a black pitehy muck subsoil, this implement has produced good results. Mr. M. proposes to use a similar implement, running it every two or three rods for cross drains, previous to laying down tiles in the natural water courses, and will communicate from time to time the results. He proposes leveling and grading the surface a little, before using the mole-plow, so as to secure a uniform depth of drain. The success and permanence of these mole-drains now being used in different parts of the country, will be matters of interest. We do not see the advantage of the series of balls over a single piece of steel or iron tapering at the point and enlarged at the rear end to the required size. It would seem that a continuous piece of metal would leave a smoother opening than the disconnected balls.

Draining—Why—Where—How.

(Continued from page 137.)

HOW.

Wood Drains are frequently resorted to, and are often necessary, where neither stones nor tiles are available. In new, swampy land, we have seen quite serviceable drains made by opening a deep trench, and putting in a layer of brush or faggots. Such a drain should be eight to twelve inches, or more, wide at the bottom, and at least 2½ feet deep. The best method of



Fig. 8.

putting the brush in, is to begin at the highest end of the drain, and keep the butt ends forward, letting the twigs lap back half their length upon the previous layer. In other words, lay in the brush with the butt or larger ends forward, and inclined downward, as shown in Fig. 8. This leaves the surface with a continuous layer of the smallest twigs, which will better support the earth thrown upon them. The brush used for such a drain should be somewhat straight; many cross branches would leave it too open. The brush should be well packed, and the smaller limbs be pressed down smoothly on the surface, as the earth is thrown on. A layer of inverted sods, placed on the brush, is very desirable. Leaves, coarse grass, or flags, may be used to prevent the sifting in of earth among the brush. Such drains will be effective for a few years, and will doubtless pay where permanent drains can not be conveniently made.

Another kind of wood drains is made by cutting a ditch, and laying in the bottom two straight logs or poles, or split timbers, and covering them with a third one, as shown in Fig. 9. The size of the open passage will depend upon the diameter of the logs or poles, which may be from 4 to 7 or 8 inches, if conveniently obtained. Unless the timber is unusually straight, so as to form very close joints, a covering of sods or brush and leaves should be used, to prevent the

soil from running in. The permanence of such drains will, of course, depend upon the kind of wood used, and the proportion of time the drain is filled with water. A drain of this kind, made of locust timber, would last a lifetime, or longer; but this variety of wood is seldom accessible in quantity, and when obtainable, is too valuable for fence posts, to allow its use for drains. Perhaps the efforts now making to grow locust on the Western prairies, may be so successful that, after a few years, there will be enough of this timber to be used for drains, in localities too distant from clay beds to obtain tiles cheaply.

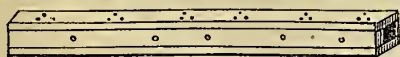


Fig. 10.

Wooden tubing is sometimes used, like that shown in Fig. 10. Bottom and cover pieces, 4 to 6 inches wide, and 1 to 1½ inches thick, are nailed upon side strips 2 to 3 inches wide, leaving a passage of 2 to 3 inches for water. The water will enter freely at the joinings of the side and top pieces, though it is better to pierce the

wood with numerous small holes. The boxes are rapidly put together. It is best to let the top and side pieces break joints in laying them down, as this secures them from being displaced. Slabs, or the imperfect bark side portions left in sawing timber, may be used, as no straight edges are required, except for the side pieces. These may be imperfect scantling. Such a drain, if made of larch or other durable timber, would last many years, and be very effective. If put in firm clay, the opening will remain long after the wood had rotted away. In these various kinds of drains, there need be no fear about the entrance of the water. Water will not remain in the surrounding soil, when there is the smallest aperture or crack, into an open drain; it would require no little care to construct a drain of any material so tight as to keep water out.

Stone Drains are as yet the most feasible, since in many places this material is still the only available one for a permanent drain; though we shall see, further on, that even where there is an abundance of stones, it is often cheaper to use tiles. Indeed, taking into account the large areas where stones are wanting, or are not abundant, tiles will soon be the principal material used for draining in our country.—A very common method, but a very bad one, adopted

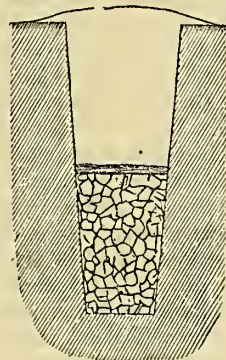


Fig. 11.

in laying stone drains, is that illustrated in Fig. 11, in which the drain is simply filled with small stones thrown in at random. Such drains last for a time, and at first operate well; but we doubt if one out of a hundred will be effective for a dozen or twenty years. The soil will in time clog them at some point, and a single stoppage anywhere in the drain renders it useless. They may be made somewhat permanent, in a compact soil, however, if the stones are small, and care be taken to cover them well. The best plan is to smooth off the top of the stones with pebbles or the smallest stones; then put on a layer of refuse hay or straw, evenly, but not thick, and put upon this clay, or soil that will pack well. The first layer should be tramped or beat down firmly; otherwise the first water that runs in, will open passages through, and gradually wash in large amounts of soil, leaving pitfalls above, and clogging the drain. Great care should be exercised in laying in the stones, that at no point two larger stones, lying close together, stop or nearly stop the free passage of water. The precautions above named, in reference to covering with hay or straw, and packing down the earth, etc., should be used for the protection of all kinds of stone and brush drains.

Where the stones are small, if flat stones are accessible, it is preferable by far, to get enough of these, even at considerable expense, to form an open passage under the small stones. If the

soil be firm, the form shown in fig. 12, is a very good one. Here two stones are placed leaning outwards, and coming together at the bottom; and a third stone is laid on as a cover, so as to leave the continuous passage, *a*. In such a drain the smallest flow of water will keep up a current in the narrow bottom, and clean out any soil washing in. If, as is sometimes recommended, the opening be made broad at the bottom, the stones inclining *inward* at the top, a small flow of water would be spread out so much over the broad base, that the current would not suffice to clear the passage of soil.

It seldom happens, however, that there are not large stones enough to build the drain in the manner shown by fig. 13; that is, with a row of stones along each side of the ditch, and a flat one across the top, to form an arch or cover. This is the best method in all cases; yet many drains of this construction fail. Moles, rats, and mice burrow in them, and undermine the side stones; a current of water often does the same thing. Soil washes in and clogs the drain at some point where there is little current, and the whole becomes choked. The cap

Fig. 13.

stone, if round, is often so turned as to nearly close the opening, and perhaps quite so, after the side stones settle. A bungling workman will, ten chances to one, leave some stone so poorly laid, that one end of it will slip down during the settling of the earth, and perhaps it will be knocked down before completion, by the stones thrown in above. All these points are to be carefully guarded against. Only yesterday we noticed the laying of a drain, 900 feet long, which was being done by contract, for 56 cents a rod. According to the contract, it was to be "10 inches in the clear;" but, owing to carelessness of the workmen, we saw places where there was not 2 inches of space left under a round stone, used as a cap; and the chances are that, when the drain settles, there will not be an inch left, if indeed the drain be not wholly closed. The fact is, no such drain should be laid by contract, and none but the most skillful, faithful workmen should ever be entrusted with laying a cobble stone drain. With flat or quarried stones there is less risk, but still a risk. An error in laying one stone may destroy the whole, and require the taking up of the entire length, to find the fault.

We have recently proposed a plan to counteract the operation of moles, the settling of the stones out of place, the washing out of earth from under the side stones, as well as from the bottom of the drain. It is simply this: When all ready to lay the stones, spread upon the bottom of the drain a thin layer of mortar, made of hydraulic cement (water-lime) and sand. Bed the side stones in this, and smooth the bottom of the drain with a board or trowel. The side stones will then be held firmly in place, and the bottom will afford a smooth passage for water, and one impervious to moles. We consider this an important improvement. A barrel of hydraulic lime (costing \$1.25 to \$2.50), and two barrels of sand, will suffice for a long stretch of drain. With this addition of a cement bed, which will not cost sixpence per rod, and with suitable care in putting on the cap stone, and a layer of small stones above, and the proper covering of refuse hay or straw, and packing earth over the latter, such a drain will not only be effective, but very lasting.

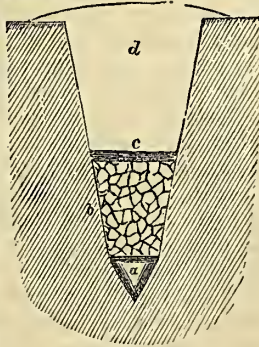


Fig. 12.

Sow Corn for Feeding.

Hardly another item of farm labor is so important as this, for June. Pastures are usually short, the last of August and September, and even in the best of grass years, the green succulent stalks of corn are a welcome addition to the feed of every grazing animal. If not absolutely needed for green fodder, then the stalks can be kept for winter use; and, if cut seasonably and properly cured, they are nearly as valuable as English hay. The ground can hardly be made to produce so much valuable fodder, at so little expense, with any other crop.

The ground should be in good heart; if not so, let it be manured with 10 to 20 cords of stable manure per acre. The corn is sometimes sown broadcast, but the crop is not as large as when sown in drills, 2½ to 3 feet apart, and cultivated 2 or 3 times, before it is too large for the operation. If foddered from the field, the cutting may commence about the time the spiddle makes its appearance, and may be continued until the ears are glazed. If it is to be cured for winter use, it should be cut just as the ears are beginning to silk. If left later, the ears will not cure well. As a rule, it should not stand later than the middle of September, at which time the season is sufficiently warm to cure the stalks rapidly.

There is a choice in the varieties of corn for this purpose. The small kinds that have been cultivated mainly for the grain, for many generations, are not so good as the larger varieties. Some use the Southern corn altogether, for this purpose, and it does well. Others use sweet corn only, thinking there is more nourishment in the stalks. We have used, for several years, the Stowell's Evergreen Sweet Corn, and, on the whole, prefer it to any variety we have ever experimented with. It yields an enormous burden of fodder, and is one of the best articles for feeding swine, as well as neat cattle. Horses, also, are very fond of it, and it may economically make up half their food while it lasts. But the variety is not a very essential matter. Sow sweet corn if you have it, or can readily procure it. But, by all means, sow corn, and keep up a full flow of milk in September and October.

Millet for Fodder.

This plant has an unfortunate history in this country. Its several varieties have been seized upon by swindlers, who, by naming it Honey Blade Grass, Japanese Wheat, Egyptian Corn, etc., and publishing lying pamphlets and advertisements, have duped purchasers into paying exorbitant prices, and reaping disappointment. Nevertheless, millet has undoubtedly much value as a forage crop. Conflicting accounts are given as to its excellence for feeding. Some of the correspondents of the *Agriculturist* deem it equal, or even superior to timothy hay, if cut at the right time and properly cured; others are of opinion that it is positively injurious to stock, particularly horses. Thus, according to the *Dubuque Herald*, it was resolved by the Dubuque Farmers' Club, after a full discussion last Winter, that "the cultivation of Hungarian grass, (German millet,) is injudicious." But from the weight of testimony offered, we are of opinion, that properly cultivated and cured, it affords a cheap and safe method of adding to the winter's supply of fodder, and that it is well fitted for cutting and feeding green, to supply deficiency in pasture.

It may be sown after the season for the main

grain crops is past. The middle of June is not too late to secure a good crop in this latitude. It is more exhaustive of the soil than clover or grass, and therefore land intended for it should be liberally enriched. For a hay crop, ten qts. of seed per acre is none too much; thick seeding gives a less rank growth of stalk. It may very well occupy land this Summer, which is wanted to seed down with winter grain, or with oats next year, but where it was impracticable to plant corn. It would be greatly preferable to naked summer fallow. It might not be advisable to substitute this crop for oats, nor to disturb a good sod for its introduction; but where manure is plenty, and there is a piece of poor pasture, or other land unoccupied, try millet.

Flax Competing with Cotton.

We refer to this subject in no controversial spirit. It is, to say the least, very doubtful whether Flax will ever be able to rise to any thing like the practical importance of the great Southern staple. But the subject is now up for public consideration, and we notice it merely as one of the signs of the times.

For a year or so past, statements have appeared in the leading city journals, that a new method had been invented for preparing the crude flax, so that it could be woven in ordinary cotton mill looms, with only a slight alteration of the machinery. Until lately, we could not trace these paragraphs to any reliable authority. Not long ago we received an official report of a discussion on this subject by the Legislative Agricultural Society of Massachusetts, held at Boston. The meeting was quite large, filling to overflow the great Hall of Representatives in the State-House. This shows how deep is the public interest on the subject. We are indebted to the "New-England Farmer" for a report, which we much condense.

The discussion was opened by Mr. S. M. Allen, who, we understand, is a cotton manufacturer. He remarked that the successful growth of cotton is confined to narrow limits in the region of the tropics, while flax can be grown almost every where, from Canada to Florida. Wild Flax is indigenous to California and Oregon. It has also been raised in other countries, from the earliest authentic history, the fiber being used for clothing and the seed for oil. Egypt, Rome and Britain used it for making linen, and the American Colonists brought the custom with them to these shores. Up to about the year 1750, it was used in its simple, clear state, but after that time cotton filling was introduced, making a mixed goods, which became very popular. As improvements were made in cotton machinery, by Arkwright and others, this material came into more general use, and flax gradually lost ground. Since 1767, it has become only a secondary product in Europe and America. The principal reason of this change lay in the supposed difficulty of preparing the flax fiber for spinning. On this point we quote Mr. Allen's own words:

"The old method of working flax was in long line, using the filaments and fibers in a united thread, without reducing them down to the ultimate fibril, either in length or size; and using in their manufacture machinery peculiarly adapted for the purpose, and differing materially from that used for manufacturing either cotton or wool. The mode of preparing the fiber was also peculiar, the same being subjected while in the straw to a fermenting or rotting process, which tended to set the gluten and al-

bumen, and, when followed by boiling in alkalis, rendered the fibers harsh and brittle, and hard to spin, making the whole process of manufacturing linen more expensive than cotton or wool. . . . The process of making fibrilia, as well as cloth and yarns, from the same, is entirely different from the old methods, and a corresponding result is produced. The albumen, gluten, and other substances which pervade the filaments and fibers on the original stalk, and which cement them together, are dissolved and removed by simple solving processes, and the fibrils are separated to their original length, of from one to two inches, by a review of the solving process with a simple mechanical one, which fits the fibrils for spinning on either cotton or woolen machinery, and which makes it resemble those fibers both in color and whiteness, and in length of staple."

After this general exposition, the speaker exhibited specimens of fibrilia made from flax, looking much like cotton or wool, and which could be used with either of these fibers, or alone. It spins like cotton, and makes a stronger and better yarn and cloth. He believed flax could be raised and manufactured at the North cheaper than cotton at the South, and at a fine profit to both farmer and manufacturer. It is now grown in considerable quantities at the West, for the seed alone, the fiber being thrown away. Good land will produce two tons of straw to the acre; five bushels of seed can be got from this, worth \$1.50 a bushel, and if the straw be broken on the ground, three or four hundred pounds of fibrilia, ready for the spindle, can be obtained, leaving 2,500 pounds of stalks, which are about as good for cattle as hay. [There must be some mistake about the value of the stalks as food.—*Ed. Am. Ag.*] From a quarter of the cultivated lands of the North, flax enough could be raised to more than four times equal the cotton crop of the South."

These statements of Mr. Allen were followed by remarks and inquiries from other gentlemen. One observed that both cotton and wool had a serrated or notched edge, and would therefore hold fast when wound together, whereas flax was round, and could not be made to unite firmly. He also doubted the profitability of the crop, considering the great labor required to produce it, and the comparative cost of labor at the North. He thought, if a farmer with 50 acres of land grew five acres each year in flax, for ten years, at the end of that time he would be ruined.

Another replied that, if flax-fiber has a round edge, it becomes flat at the ends when broken by the new Randall machine, and in the solving process, and so will easily and firmly unite with either cotton or wool. He also said the original difficulty in working flax on cotton machinery lay "in its long staple, the thread being bound in the stem of the plant as a bunch of rods." But Randall's machine breaks the stem, and separates the fiber, after which it can be mixed with cotton or wool, and be spun and woven with either.

Another gentleman, from this city, remarked that cotton-flax, as exhibited at this meeting, could be produced for two-thirds the price of cotton. At the West it is harvested by mowing machines, and thus got in at a cheap rate. The old idea that flax can be grown on the same land only one crop in seven years, is now exploded; all that is wanted, is manure every other year. It is a good preparatory crop for wheat. Flax raised at the West is now delivered in Boston for four and a half cents a pound, and after

being cottonized there, is sent back where it was grown, and sold for fifteen cents a pound. . . . It costs from five to six cents a pound to raise cotton, without any profit to the planter, thus giving an advantage of one or two cents a pound to flax. Full 700,000 bushels of flax-seed are annually raised in India, and more cotton than in all the United States.

We give the above facts simply as important items of intelligence. Let them pass for what they are worth. We have examined specimens of the fibrilia and calico, and other goods manufactured from it, which go far to substantiate some of the claims set forth above. A few years will determine the value of the new process, which must interest every man who cares for the prospects of American agriculture.

Weed the Wheat Fields.

If this was done last year, the labor will now be comparatively light; but if it was neglected, and foul seed was sown last Fall, the neglect must now be paid for with compound interest. If time can not be taken to go through the whole field, then mark out the best and earliest tracts, and give them especial care to procure choice, clean seed, for the next crop. Choose a time when the ground is softened by recent rain, take a garden trowel or other convenient implement for weeds not readily pulled, and root out every one that would ripen by harvest time. Thistles, cockle, dock, and many other sorts are readily discerned—deal with them thoroughly. Foreign journals complain that much of the wheat so largely exported from this country during the last year, is mixed with weed seeds, and they very properly caution cultivators against using such for seed. One sample was noticed containing large quantities of small pink bodies, about the size of wheat kernels, which proved to be bulbs of the crow garlic, (*Allium vineale*), a pestiferous weed, as all dairymen know, who have pastures infested with it. The taint imparted by it to butter is insufferable, and when, as in the above instance, the bulbs are mixed with wheat, the quality of the flour made from it is seriously impaired. See that none of this nuisance is allowed to remain in the patch of seed wheat.

Disappearance of the Wheat Midge.

Dr. Asa Fitch, N. Y. State Entomologist, in a recent article in the Country Gentleman, communicates the important and welcome information that the wheat midge has almost entirely disappeared from some sections, where, heretofore, it had seriously interfered with wheat raising. Last Summer, just before wheat harvest, the Doctor made an excursion of 50 miles in the direction of Vermont, from which the midge originally came, and was unable to find a single larva in any of the numerous wheat fields examined in Washington Co., N. Y., and Bennington and Rutland Counties, Vt.

In the central parts of New-York, and in Canada West, it is reported that no injury was received from the insect last Summer. In the latter section it was reported that a parasitic insect had subdued the midge.

In Western New-York, although the insect was as common as heretofore, it did not appear as active and injurious to wheat as formerly. This, however, is attributed to circumstances which favored a vigorous growth of grain, so that it could better withstand and recover from the attacks of the enemy.

The future history of the insect can not be

safely predicted, as circumstances favorable to it may cause it to rapidly multiply again, and in two or three years become as great a pest as heretofore. In the sections indicated, however, cultivators may sow wheat without fear of loss from this cause for at least two seasons.

Dr. F. is of opinion that the career of the insect will be analogous to that of the Hessian fly, which, on its first introduction to our shores, gradually overspread the country, everywhere devastating the wheat fields for a number of years, after which it subsided, and has seldom since attracted any particular notice.

Wheat to Chess—To the Point.

"Mayben," of Page Co., Iowa, sends definite directions for producing the transmutation of wheat into chess. His plan is easily tried, and if successful, as he believes it will be, it will entitle him to the reward offered in the *Agriculturist*.—He says, the breaking of the tap root at a particular period of growth, will generally induce the change, and directs as follows: As soon as the wheat stems begin to joint, gently pull them until the tap-root breaks, and then tramp back the roots into the soil. Go on to a plot and treat thus several alternate sections of a foot or two square, and at harvest time you will find good wheat on the undisturbed portions, and chess on the plot where the tap-root was broken in the manner described. He thinks the running of a knife under the stems to sever the tap-root, will produce the same result, but has not yet tried this. Mr. M. also undertakes to show, how the combined effects of frost, water, etc., have broken the tap-roots, in the cases already published. We have no faith in this prescription, but give the process, that any who desire, may experiment.

TRANSPLANTING WHEAT.—A correspondent of the London Agricultural Gazette suggests that it may be found advantageous to transplant wheat in the Spring, to occupy spots which have been winter-killed. Each living plant which has tillered, would furnish from six to ten or more "sets." The experiment was tried on a model farm near Dublin a few years ago; and the crop was as good as from a field sown in the usual way. This seems like an absurd proposition in this country, where land is plenty and labor scarce, but in Great Britain, where, in some sections, women and children are glad to find employment at 8 to 12 cents a day, and land is too costly to be left idle, the plan is thought worthy of consideration.

Saving Clover Seed.

As clover forms such an important element in farm economy, both as fodder and a green manure, it is important that our cultivators should more generally raise their own seed. What need of any one paying from five to eight dollars a bushel to others, when he can raise an abundance at only a trifling outlay! A farmer might about as well buy his seed-corn, wheat, oats, etc. Our climate and soil are favorable for the growth of the seed.

All that is needed, is to lay off a certain portion of the field where the yield is clean and good; and, having cut the first crop of fodder and cured it, allow the second, which is most productive, to grow and ripen its seed. The yield will range from four to eight bushels of seed to the acre, according to the strength of the land. The first crop of fodder should be har-

vested (or it may be eaten off by sheep or cattle,) by the middle of May or the first of June, so as to give the second crop a sufficient time to mature its seed; for if not ripe before hard frosts come, it will be injured. Of course, if the land is poor, it should be well manured in the Spring or Fall previous.

Of the several machines now in use for gathering and cleaning the seed, we need not express any decided preference. Wagener's is an excellent harvester, and Crawford's is a good huller, and there may be others equally good in market. Farmers who have only a little seed to hull, can get along by using the ordinary threshing machine, modifying the running of it a little for the purpose; the work, however, has to be gone over with several times in order to get the seed perfectly clean. But if the farmer wishes only to save enough for his own use, he need not be careful to clean it nicely; it will vegetate very well if sown in the chaff. Still again, for small farmers who wish to raise a little seed, but not take the trouble to clean it, a home-made machine can be got up at little cost. A Kentucky farmer with a Yankee genius, thus describes one, in the Louisville Journal: "Make a box, say three feet wide, four feet long, and one foot deep, with the forward end left out. This should be placed on runners about nine inches wide, forming a kind of sled; teeth made of hard wood, about fifteen inches long, one inch thick, and one inch wide at the top, and half an inch wide on the under side. These should be placed about a quarter of an inch apart, forming a kind of comb by which the heads are gathered."

Curing Clover—An Old Notion.

A subscriber communicates the following extract from an agricultural almanac printed in 1809, and asks the opinion of the *Agriculturist* upon its practicability:

"To preserve Clover in its green state: take in your grass from the swath, cut it up as you would straw in a cutting machine, pack it well down in a close apartment, or in hogsheads, giving a pound of salt to every hundred weight. By preserving it thus, you will have a beautiful green hay, exceedingly fragrant and nourishing, and superior to any other fodder.

Wouldn't it be something of a job to run the clover from a ten acre field through a cutter, with the mercury at 90°? How many hogsheads would be required? The coopers' trade would flourish where this plan was practiced. One quart of salt to a hundred of hay would not prevent fermentation. To save green clover packed in a large mass, would require salt enough to pickle it,—the "fragrance" under such circumstances would be imaginary, and the "nourishment" problematical.

SOWING SOAKED SEED.—It is often advantageous to soak onion, carrot, and other small seeds, which unfits them for sowing in the seed-sowers or drills. But if the seed is mixed with slaked lime, or plaster, or coal ashes, or wood ashes, or with fine dry soil, it will soon become coated, and run readily from the drilling machine. It is useful to drill in some concentrated manure with the seed.

HOW TO TIE A BAG.—Double the string, put it around the bag, and pass the two loose ends through the loop at the other end; then draw one loose end one way and the other in the contrary direction, take one or two turns, and tie.

Manuring with the Hoe.

To the Editor of the American Agriculturist.

If cultivators have followed the advice of the *Agriculturist*, their barn-yards, stables, poultry-houses, wood-sheds, and every other spot from which manure could be gathered, are now as clean as scraping could make them, and the precious deposits have been removed to the fields, to be manufactured into corn, potatoes, and other produce. But many of us are lacking yet. In breaking up a ten-acre field for corn, for instance, one would scarcely think of leaving two acres uncmployed because he had only manure enough to give a thorough dressing to eight acres; so the fertilizing material is spread thinner and there is 20 per cent less than there should be. I know the manure merchants advise to make up this want by purchasing their compounds, but I don't know that it will pay us, if it does them. Now I propose a plan which I have found to work well, which is, to manure with the hoe. Frequent stirring of the soil, by keeping the surface loose and porous, lets the air in more freely. Air contains quite an amount of carbon in the form of gas, and also a little ammonia, both of which you teach us, go to make up the substance of vegetables, and which are extracted from the soil by the roots. Then, again, if the surface is kept open, the water from below will rise to supply the place of that evaporated, and will bring with it the matters which it has dissolved, which can also be taken up by the roots. In addition to this, every weed which has been stealing nourishment from the soil, can be made to give it back with interest, by hoeing it into the earth, where it will decay and furnish plant food. So, if manure be scarce, we can partly make it up by extra cultivation. Corn in this section is usually plowed and hoed twice, or three times if the owner is not too busy; I would go through it five or even six times with a horse-hoe, or cultivator, and I believe that each time would add five bushels an acre to the yield. Of course, as the roots extend, the surface only should be stirred, so as not to injure them.

JONATHAN.

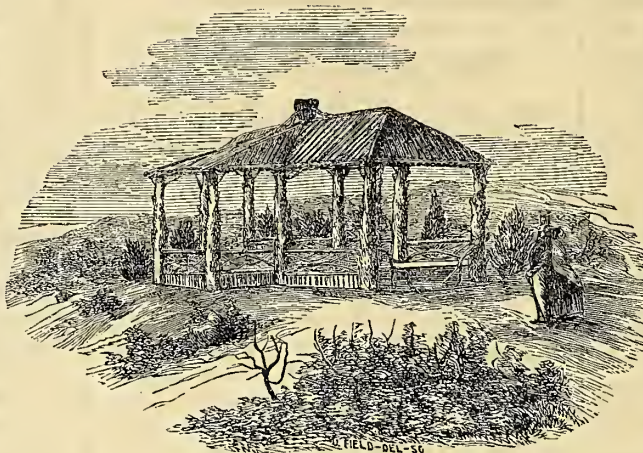
Mowers and Reapers.

Mowers and Reapers are a good deal like sewing machines. That patent is usually thought, by the owner, to be the best, which he happens to have, and knows how to work. There are several whose merits are so nearly equally balanced, that it would take a very nice judge, and a very intimate acquaintance with the working of the machines, to determine which was superior. Indeed, competent judges would be likely to come to a different conclusion. Any one of the better class of mowers is so great an improvement upon the scythe, that it will pay for itself in two seasons upon any large farm. It will mow an acre an hour, easily, and this puts the hay harvest so completely in the power of the farmer, that he can cut it just in the season when it is most valuable for fodder.

In answer to repeated inquiries, we can only say that there are several first-rate implements, between which we can hardly decide in such a way as would be best for every locality. Common sense, your own observation, and the experience of uninterested neighbors are the best sources of information. Any one of those ad-

vertised in this journal, is worth buying, we believe. They have all proved good.

How to SCOUR A PLOW.—Henry M. Clark, Ozaukee Co., Wis., writes that having left his plow standing in the field all winter, of course, the cast iron parts were badly rusted. He applied a good coat of spirits turpentine, and the following week, when commencing to plow, all was scoured bright 'as a dollar' in going twenty rods. Better not to have left it out



Rustic Summer-Houses, etc.

A great deal has been said in favor of these adornments of a country-place: we have done something in this journal towards advocating them. No one can deny that it is a pleasant sight to see ingeniously contrived arbors, trellises and seats scattered about the grounds of a rural home. But, to make them satisfactory in the highest degree, they must be made of the most durable materials. Constructed of cedar posts and branches, and of large grape-vines, they will last indefinitely; but built, as they often are, of beech and elm, and other perishable woods of the forest, they soon go to destruction.

We have lately examined several rustic houses built as follows: Four of the six sides were boarded up with bass-wood slabs; the roof was made of pine boards, and then bass-wood bark was tacked on to give it a picturesque look. The seats were of pine boards, with bass-wood bark again, and for the same purpose, probably. A table in the center was made of hemlock boards, having maple rods tacked on to cover the hemlock.

Now, this sort of work looks very well and very rustic while it is new, but the carpenter has hardly laid down his saw and hammer, before decay sets in. The rain lodges in the bass-wood bark of the roof and the sides, and they forthwith begin to rot. Then, insects of various sorts and sizes find a congenial home there, and the summer lodge which was expected to be a pleasant retreat for the ladies and children, becomes positively disagreeable. Ugh! see the ugly bugs! and the horrid worms! they exclaim, in affright, and run away to more congenial places. Now, it is poor economy to put up a building that must so soon perish; and it is waste of time to build a pleasure-house in which the dear ones can find no pleasure. A rustic house, we repeat, should be of the most durable wood, and bug-proof, or let it not be built.

We have another plan to suggest: Let a model be fixed upon, resembling ordinary rustic-work, but let it be wrought from good, well-seasoned pine. The posts may be of cedar, if convenient, but the arches, lattice-work, roof, seats, tables,

and what not, may be made of good stuff, then painted two or three coats, of a color resembling weather stained wood. The table and seats may be made movable, so as to be carried into a shed or upper loft during the Winter. They would then last for many years. By this plan we might have a rustic-looking building, without the objectionable features before mentioned, and one not costing a great sum. Another suggestion: One of the prettiest modes of embellishing a summer-house, is

to suspend rustic baskets of flowers from the roof or the brackets. These baskets may be lined with moss, and then almost any climbing plants growing in pots, may be set into the basket. The Maurandias, the English Ivy, the Moneywort, and other things, succeed admirably. They look beautiful when twining around the cords which suspend the basket, and trailing gracefully below it.

Answers to Inquiries about Illinois.

To the Editor of the American Agriculturist.

Once more through the medium of your very valuable paper, which really seems ubiquitous, I will endeavor to reply to several letters of inquiry about Illinois lands, from those who write to me, "I read your article in the *American Agriculturist*," etc., etc. This morning comes another from Virginia, and every few days they come, some with stamps enclosed, some *without*. But to my subject. "How is the health of your county?" To this question it is an easy matter to reply, if I merely say, as good as any in Illinois. The health of a country depends upon its situation, the water used for drinking, and the manner of living, including food, dress, and lodging.

During a residence of four years in Christian Co., Ill., in the middle of a large prairie, my family suffered from no sickness, except an epidemic dysentery in 1859, which carried off two of my children, the only ones attacked. Many of my neighbors, however, new settlers like ourselves, suffered much for the first two years residence from Intermittent Fever. I believe the unfinished condition of their dwellings, the manner of eating, living, and sleeping in the same room, the use of improper food, and of surface water to drink, with inattention to dress, were the principal causes of sickness. As these were improved upon, their sickness was less. Sickness, however, will prevail more or less in certain localities, owing to causes which are difficult to obviate at once, such as want of drainage, clearing, etc.

"How is it timbered and watered?" The larger part of Christian Co. is prairie, interspersed with belts of timber and small groves, the most of which are in the hands of settlers or speculators, and as a general thing there is more sickness there, than in the open prairie. Fire wood is easy to get near the timber, but difficult in the prairie, the settlers there mostly using coal, procured at the railroad station, Assumption, or at the mines in Shelby (adjacent) county, price 8 cents a bushel at mines, 14 cents at railroad. Timber and all kinds of lumber procured readily at railroad station, at prices varying with quality. In the timber and more hilly portion of the county, around Taylorville, county seat, and the branches of the Sangamon, there are springs. Well water is generally used, however, although cistern water is being introduced, which is certainly the best.

Good water is found at 20 feet depth in the prairies.

"What is the price of land, or how does land rent?" To this question no definite answer can be made, as it both sells and rents at very varied prices, governed by situation, improvements, and necessities of the seller or renter. I have rented my farm of 325 acres of prairie, with a good house and barn, to a tenant for one year, for one-half the wheat, 90 acres, (I finding seed, and he putting it in, and I paying one-half the machine threshing,) and one-third of corn and other crops. Money rents are from \$2 to \$3 per acre—grain rents all sorts of ways. Land sells from \$5 to \$30 an acre for raw, unimproved land, and improved lands from \$7 to \$50. *It is cheaper to buy improved lands, than to buy raw prairie at one-half the price,* especially if you have no more money than necessary to purchase, build, and fence. There are plenty of fine farms to be had, with improvements, at reasonable prices, *part cash.* To get a definite idea of the price of land, it is necessary to be "Charley on the spot," and a day or two in riding around, will give more information than a dozen letters. Do not, however, place confidence in *all* that is told you. Men who have places to sell or rent, usually paint matters somewhat; the *truth* can be had from *neighbors.* To those who write that they have large families and small means, I would sincerely say, consider what you do. A few acres well cultivated in Virginia or New-York, will yield you as good, or a better living, than many illy cultivated in Illinois. Do not buy or rent more than you can attend to. Crops frequently fail, prices are often very low, and unless you can get along without one or two crops, and pay for help, when required, it is a lottery to venture. Lands near railroads are to be had, improved and unimproved, at \$15 to \$30 per acre, which yield with good cultivation, 30 to 60 bushels corn, and 10 to 20 bushels of wheat; but when every one has good crops, wheat is worth but 60 to 70 cents, and corn is a drug at 12 to 20 cents. Hogs are profitable when all things are favorable, so is stock of all kinds.

But, friends, who desire to try the rich lands of Illinois, remember that "money makes the mare go," and a little of that article is very essential for your happiness and comfort. The health and comfort of your wife and family should be paramount to all other things, and if you have not the means to build a comfortable house, and have the necessary comforts of life around you, to guard against sickness, you had better rent until you can have them. Do not go to Illinois unless you are industrious and persevering. Do not imagine, rich land will enrich you without labor; the idea is fallacious, and many have suffered from it. H. HINKLEY, M.D.

For the American Agriculturist.

Cheap Pig Feed.

In the Summer of 1858, I had two half breed Suffolk pigs. I kept them from July to October inclusive (four months), exclusively on waste cabbage leaves, with the exception of a little dish-water slop from the house. They grew very thrifty, and were nearly fat enough to kill. The leaves were fed raw, just as picked from the cabbage. I had a patch of about 1000 cabbages and the lower leaves would grow nearly twice as fast as I needed them for the pigs. The cabbage did not seem to be materially retarded in growing and heading.

In 1857, I fed an unruly cow, that I kept tied

to a stake, exclusively on the pickings of the bottom leaves of the cabbage on a patch of 600, for four months time. She got quite fat. The cabbage headed up finely with some very large heads.

L. L. FAIRCHILD.

Dodge Co., Wis.

"Horn-Ail" not a Disease.

Dr. Dadd, who is regarded as good authority upon the diseases of cattle, regards "Horn-Ail" as a symptom, rather than a disease. The common practice of boring the horn with a gimlet he ridicules as quackery. He says: "'Horn-Ail,' as it is improperly termed, may accompany common catarrh, also that of an epidemic form; the horns will feel unnatural if there be a determination of blood to the head. This might be easily equalized by stimulating the external surface and extremities, at the same time giving anti-spasmodic teas, and regulating the diet. The horns will feel cold whenever there is an unnatural distribution of the blood, and this may arise from exposure, or suffering the animal to wallow in filth. For a cure, endeavor to promote a healthy action through the whole system; to stimulate the digestive organs, to remove obstructions, both by injections, if necessary, and by the use of aperients; lastly to invite action to the extremities by stimulating liniments. Whenever these indications are fulfilled, 'horn-ail' soon disappears."

Graining Young Cattle—Root Feeding.

A subscriber, T. Boardman, Tompkins Co., N. Y., speaks of his success in giving extra feed to a pair of steers. Though the grain was chiefly fed out in small quantities, to make them gentle while they were being broken, more than any thing else, he found it a paying operation. He was astonished to see how rapidly they took on flesh when they were turned out to grass in the Spring. They grew so sleek and handsome, that they were soon in demand, and sold for fifty per cent more than any other cattle he ever disposed of, at the same age. He thinks he got at least five dollars a bushel for all the grain which he fed to them.

There is no doubt about the economy of generous treatment for young cattle, and indeed for all cattle, during the Winter. It prepares them to make the most of the grass season, when it comes. If they are lean and hollow in May, as most animals are that have been kept at the stack during Winter, it takes them full two months to recover what they have lost upon a spare diet. If in good condition when they first enter the pastures, they take on flesh rapidly, and not a day is lost. The pay for the extra feed will be returned in the extra growth if they are young cattle, and in extra milk if they are cows.

We have often had occasion to notice this in milch cows. We think they will give from 20 to 30 per cent more milk in the Summer after a diet of meal and roots, in part, in Winter. The extra feed which they require is probably supplied much more economically in the form of roots, than in grain, especially in the older States, where corn is 75 cents a bushel and upwards. Turnips, beets, mangel wurzel, and carrots can be raised from five to ten cents a bushel, and from a peck to a bushel of these roots, according to size, with plenty of hay, fed daily to an animal, will keep him in good flesh. Those who regard these roots as all water, will be surprised to see what a change they make in the looks of an animal in a very short time. In the new

States where corn is worth 30 cents a bushel and less, there is less motive for raising roots. But, during Winter, some feed beside hay is good economy everywhere. Except for turnips, it is now late to put in a root crop this season, unless in a high northern latitude, yet a fair crop of carrots or mangel wurzels may be secured even now, if sown immediately and well cultivated.

FEED FOR WEANED CALVES.—Full blooded or grade animals are often kept with the cows for six or eight months. To keep them from losing flesh, when weaned, they should have Indian meal, grain, or roots. A mixture of meal and roots is the best, if the weaning is in the Winter; if at this season, the meal is sufficient. The change of food should be made gradually, beginning with a small quantity before the calf is taken from the cow, and increasing it daily until the young animal is weaned. Otherwise serious derangement of the digestive organs would be likely to follow.

Do Moles Eat Peas?

To the Editor of the American Agriculturist:

You ask: "Do Moles eat Corn?" If they will not, there is one thing, which, from provoking experience, I know they will eat, viz.: *Peas.* With many hopes, I planted freely last Spring, but vainly watched for the springing blade. Examination revealed the cause: I very soon came upon the "underground" track—but the peas never made their appearance. They cut my beets and potatoes very badly, and they seemed to have very nice times in the flower beds; they were not wanting even in the cellar, where I was so fortunate as to arrest a noble fellow. I shall try the corrosive sublimate with the peas, unless it injure the seeds for germinating. Death to the moles say I. "C. C."

Janesburg, N. Y., Jan. 1861.

REMARKS.—Is "C. C." sure the moles ate the peas? If he says he *saw* them actually eat them, or found peas in the stomach of one of them, we will believe him—otherwise we must think there was some other cause for their failure. The animals may have *disturbed* those growing along their tracks where they were hunting insects; but it is hardly possible that they should have gathered all the peas from the whole plot. Shut up moles in a box, as we have done; put in with them a lot of different kinds of grain, and when you find it untouched for days, you will incline to our opinion that they are insectivorous, and not granivorous animals. We do not say they will never eat any kind of seeds, when driven to it by hunger, yet there is reason for doubting this.—A little corrosive sublimate will probably not injure the germinating power of the peas, nor hurt the moles—at least not until they *do* eat the peas.—Ed.]

To Free Swine from Vermin.

A writer in the Southern Planter says: "If your hogs are lousy, go to their rubbing place, or what is better, take a rough twelve foot log to the feeding place, and keep it constantly smeared with tar. No spaniel ever loved water better than a lousy hog loves tar, and he applies it himself, to the most infested spots on his body, so effectually that the lice speedily disappear. I have seen 95 out of 96 hogs smear themselves with tar in less than thirty minutes after they had access to it; and not one had ever known its use before."

Pine Lumbering—A Lesson from History.

The white pine, (*Pinus strobus*), is perhaps the most valuable tree of our forests. From the first settlement of the country it has been most highly prized for lumber, and it now forms a part of almost every good dwelling in the land. The window frames and sashes, the blinds and doors are almost universally of pine. It often forms the mop-boards and shingles, the floors and parts of the frame work. This tree was widely distributed over the older States in the North, and occupied the valleys of rivers and plains, where it was most accessible to the early settlers. The pine loved smooth easily worked land, and the settler did the same. The pioneer, in making his clearing for a farm, had no thought for posterity. He wanted to plant corn and cultivate grasses, and the trees were his natural enemies. They had no value except for fuel, as they have none now, in many of the new settlements remote from navigable streams.

As the population increased, and cities began to be built, it would pay to cut and saw the pine, and send it to market. The settler wanted to realize immediately upon his purchase, and all the pine lumber was marketed that he could cut and saw. Thus all New England, except Maine, has been stripped of its pine, and even in the Pine Tree State, the pines are beginning to fail, and spruce, fir, and hemlock, are taking their place. It is said, we know not how truly, that pine from Michigan now sometimes floods a market in Maine.

It is only about eighty years since Vermont was settled, and it is not fifty years since the lumber trade was the principal business at Burlington, on Lake Champlain. The region around for twenty miles, back to the foot of the Green Mountain range, was heavily timbered with white pine. The men are now living who remember the grand slaughter upon these monarchs of the forest, and the shipping of the lumber, through the lake, and the St. Lawrence, to Europe. Trees from four to six feet in diameter, and from 140 to 180 feet in height, were not uncommon. Dr. Wheelock, of Dartmouth College, is said to have measured a tree that stood upon the college grounds, and found it 270 feet in length. But now a pine a hundred feet high is a very rare object. In a recent trip from Burlington eastward to the mountains, we did not see an acre of primitive pine forest, and but few of the second growth. Other varieties of wood are much more common than the pine. Remains of the old forests are occasionally seen, in enormous stumps not yet rotted in the ground, or in stump fences, that have stood for a generation. The export of pine lumber has long since ceased, and the region is now dependent upon Canada and the West for its supplies. Hardly an intelligent farmer can be found that does not mourn over the indiscriminate havoc of the first growth of pines. It would take at least three hundred years to restore them.

Is there not a lesson in this fact for the lumbermen of Michigan and the North-western States? They own the land, and wish to make the most of it, for themselves, and their children. The clearing up of their pine lands is likely to go forward more rapidly than in Vermont, for the tide of emigration moves stronger westward, and we have an immense population along the seaboard, that must be more and more dependent upon these new States for their pine lumber. At present they have but a small profit upon their lumber, because of its distance from market. The market is all the while com-

ing nearer to them, and, judging from the past, the cost of transportation will be diminishing. Will it not be better for their estate, a richer inheritance for their children, to leave at least half of these forests untouched by the ax? Suppose an acre of primitive pine forest now standing near the shore of Lake Champlain. With pine lumber worth from \$20 to \$30 a thousand, and a home market, every one acquainted with the business, can readily see the value of such a piece of property. Many of the trees would be worth \$100 and upwards, and an acre would purchase a respectable farm.

It is worth while for the new settlers upon these pine lands to look forward fifty years, and think of their heirs, if not of their own old age. Then an acre of cleared meadow may be worth \$50 for cultivation, and an acre of primitive pine \$1000 for lumber. Of course, the most of the forest must perish to make room for farms and the onward march of civilization. We only ask that the wants of posterity may be considered, and that the unprofitable experiment of New-England be not repeated.

Important Discovery in Sugar Making.

In the Journal d'Agriculture of Feb. 5th, the editor, M. Barral, speaks of the new process of M. Rousseau for the fabrication of sugar, as being likely to cause a revolution in this branch of industry. We are inclined to receive with distrust the glowing accounts that the French are wont to give of their great discoveries, yet we cheerfully acknowledge that some of these have proved of great advantage to agricultural science, and hope that this new process may, on further trial, be found to possess all the merit claimed for it, and that our Western farmers may be able to use it successfully in the manufacture of sugar from the sorghum. The chemical agents employed are cheap, have no injurious action on the human system, or the saccharine juices. The repeated filtrations through animal charcoal, which are now used for refining sugar, are said to be unnecessary, and the evaporation of the syrup can be effected in simple apparatus.

The juice that is extracted from the sacchariferous plant is generally colorless as long as it remains in the cells of the plant, but changes rapidly on exposure to the air, because it contains albumenoid matters, and other substances which are colored brown or black by the action of oxygen. M. Rousseau, removes the albumenoid matter by heating the saccharine juice in a boiler with three thousandths of its weight of sulphate of lime, (plaster of paris) pulverized. When the liquid reaches 212°, all the coagulable matters rise to the surface and unite in a firm head, and a perfectly clear juice remains, which may be drawn off. This juice, if left exposed to the air, will become as black as ink, but if from 6 to 8 per cent. of its weight of hydrated per-oxide of iron be stirred in, it is freed, in a few seconds, from all the changeable organic matters, and continues, for an indefinite period, colorless. Nothing now remains to be done but to evaporate the water and thus obtain crystallized sugar. M. Barral remarks that he has been able to try the experiment only in the laboratory, but he has tried it enough to satisfy him that the application on a large scale will be successful. In a subsequent number of his journal he reaffirms his belief in the value of this discovery, and says that he has made excellent sugar by this process. He moreover says that in a few days an experiment will be made on a large

scale, and in September next, after the gathering of the beet crop, this process will be employed in one of the large sugar houses in France, and several farm sugar houses will be fitted up, which the farmers can visit, and ascertain for themselves all the profit that they can derive from this discovery. This process has no perceptible effect in removing the coloring matter of brown sugar, after the juice has become oxidized by exposure to the air; the repeated filtrations through animal charcoal are then necessary to refine the sugar.

We will here mention for the benefit of our Western friends the remark of an experienced sugar refiner of this city, that one reason of the failure to make sugar from the sorghum, in many cases, is that the whole stalk is ground up, top and all, whereas the top should be cut off and only the main body of the stalk ground. The top often contains an acid which hinders the sugar from crystalizing, but does not prevent the making of good syrup.

Plowing by Steam.

There is little hazard in saying that the steam plow will be in successful operation in this country within ten years from this time. The spirit of the age demands it. The painfully slow pace of the horse or ox laboriously toiling in the furrow, is all out of keeping with the times. Men who ride triumphantly over their fields with the reaper and mower, will not long be content to plod the weary rounds now required to bring their acres into cultivation. The advanced condition of agriculture demands it. Men of far-reaching intellect, capable of large plans, are now content to be farmers, but their operations must correspond to their abilities; they must be *generals* in the field, and engage in wholesale operations on the spreading prairies that invite to glorious though peaceful triumphs; they must number their acres by the thousand, and they will have implements commensurate with the work. Then, too, improved cultivation needs an instrument adapted to its methods. Deep tillage, and thorough comminution of the soil are recognized as essential to the best crops, and the plow as now constructed can only approximate to the required work. The great outlay of animal power needed for thorough culture, is one great obstacle to its general adoption. But in addition to the confessed need of the steam plow, we have the fact that it is actually working. Recent English journals give accounts of the successful performance of Fowler's steam cultivating apparatus—not on the exhibition grounds of an Agricultural Society merely, but in the regular work of the farm. In a single locality, within a radius of 20 miles around Overtown, there are *fourteen* of these machines at work, of which the owners give most encouraging statements. Mr. Stratton, well known as one of the foremost breeders of English Short-Horns, having used a 12-horse power Steam Plow, since October, 1859, says; "The machine is managed entirely by my own farm servants, and yet since we have begun to plow for wheat-seeding, 200 acres have been plowed without any breakage, or the delay of even half a day on account of either engine or tackle. . . . We go eight inches deep; and frequently at the rate of one acre per hour." Other intelligent men give testimony to the same effect. The cost of plowing an acre is stated by one owner of a machine, to be 7 shillings sterling, or about \$1.75.

Those who have compared the working

of Fowler's apparatus with steam plows already invented on this side the Atlantic, pronounce several of the latter superior; but even these have not reached the point of excellence demanded by the wants of cultivators. The field is still open for inventors, and some one will yet reap a fortune, and enrol his name with Watts, Arkwright, Fulton, and Whitney. Agricultural Societies can do much to encourage this enterprise. There has been unfortunate misunderstanding or mismanagement in the offers and awards of premiums for steam plows. Let this be guarded against.

Use the Crowbar.

A lively Yankee once begged us to advocate the crowbar. Not that he had any patent which he wanted to introduce. Any sort would do, if it were only strong enough not to bend, and light and smooth enough to handle conveniently. Then use it. The rocky hill-sides of New-England were the grand field of its display, the old, half sterile farms, which the Yankee boys were leaving for the fat prairies of the West. Stay at home, some of you, and handle the crowbar. Clear up those stony acres, and build from the proceeds imperishable fences, and then bury the plow deep in the unburdened soil. And let the manure fork finish up what the crowbar and plow have begun. What need of all the sons hurrying away from the old homestead, and going where schools and churches, and good roads and good society, and other like good things, have all got to be created. No, no: use the crowbar, and contentedly stay where you are.

About Pomological Societies.

Many things can be said for and against these associations. There is danger that some persons will endeavor to use them for selfish ends. For instance: nurserymen, or growers of any specialty of fruit, or flower, or shade-tree, or manufacturer of patent manures and the like, may take advantage of their power and influence as members of such society, to introduce their favorite articles to public notice, and to get certificates and recommendations which they do not really deserve. By personal influence, or the use of that which is said to "make the mare go," they may get opinions manufactured which will serve their purpose very well before the deluded public. Indeed, we have known interested persons to join these societies with the sole aim of pushing their own wares into market, and then to resign their membership in disgust, as soon as their selfishness was detected and exposed. We have also known persons to join these societies for the purpose of gathering all the information they could obtain from the study and experience of others, while they selfishly and meanly withheld their own from the common benefit.

The opinion is somewhat widely prevalent now, that our various pomological societies are only another name for nurserymen's clubs, got up by them, and managed and sustained for their mutual profit. Their approaching meetings, so we are told, are heralded loudly in the papers, their discussions and opinions are reported at length in numerous journals, and thus an interest is awakened in the public mind in behalf of pomology and kindred pursuits. All of this contributes largely (are you so blind as not to see it?) to the sale of the nurserymen's articles, be they good, bad or indifferent. So think the suspicious ones, and they declare their suspi-

cions, and so excite wide-spread prejudices and fears, and in this way the good cause of horticulture gets many a put-back.

It is perhaps not growling too much, to say that some persons are willing to pay the annual fee of membership, solely for the privilege of hearing themselves talk at the public meetings, and of having their names and speeches reported by the public press—a cheap way of becoming notorious, if not famous.

We are not disposed to defend the nurserymen, but there is another side to this matter. What if men are a little selfish here, and seek to promote their own welfare? Is this the only place that selfishness shows itself? May not the nurseryman look out for his own advantage, and at the same time promote the public interest? If he fail to consult the good of his patrons, it will soon be found out, and he will suffer ten-fold.

Both parties are bound together by the tie of interest. If a man endeavors to promote his own advantage by fair and honorable means, no one should complain! All business operations are conducted on this principle. Every man must take care of his own interests; and if in so doing he benefits society at large, it is all very well: it is just as it should be.

Furthermore; it is very natural and proper that nurserymen should be the leading and most numerous members of these societies. Horticulture is their business, they feel attached to it, they are generally better informed about it than other men, and they desire to increase their stores of knowledge from the experience of others. In order to adapt their stock to the wants of the market, they desire to learn the experience of horticulturists in all sections of the country. And in no way can they gather the needed information better than by attendance at the meetings of these societies.

But these associations are not composed entirely of nurserymen. Our country has now a large number of amateurs who pursue horticulture from simple love of it, who are desirous to learn all they can, and are willing to teach all they know about it. A pomological discussion by well informed men is to them a feast of fat things. A new hint about the management of fruit trees, shade trees, or flowers; information as to the merits of any new variety of tree, vine, shrub or flowering plant; in short, any new fact touching horticulture in any of its branches, is received by them with avidity and delight. Then, too, the simple fact of meeting with a large number of gentlemen engaged in kindred pursuits, feeds their zeal, and gives them new interest in their favorite employment.

And then, as all who desire can not personally attend these public meetings, the discussions are reported in our leading journals, and are eagerly read by thousands in every part of the country.

As to some of the other objections already referred to, they can be remedied or borne with. If a member becomes too loquacious, measures can be taken to excuse him from such duties. If some will allow themselves to be bribed to recommend worthless articles—why, we must work harder, and hurry in the Millennium, for that alone will put a stop to all bad things!

But again; as to these societies in their associate capacity using their power to foist poor or worthless articles upon the public, the general fact is right otherwise. Humbugs ordinarily keep at a distance from pomological associations. For, the members living in different sections of the country, come together as independent and disinterested judges. All they care to

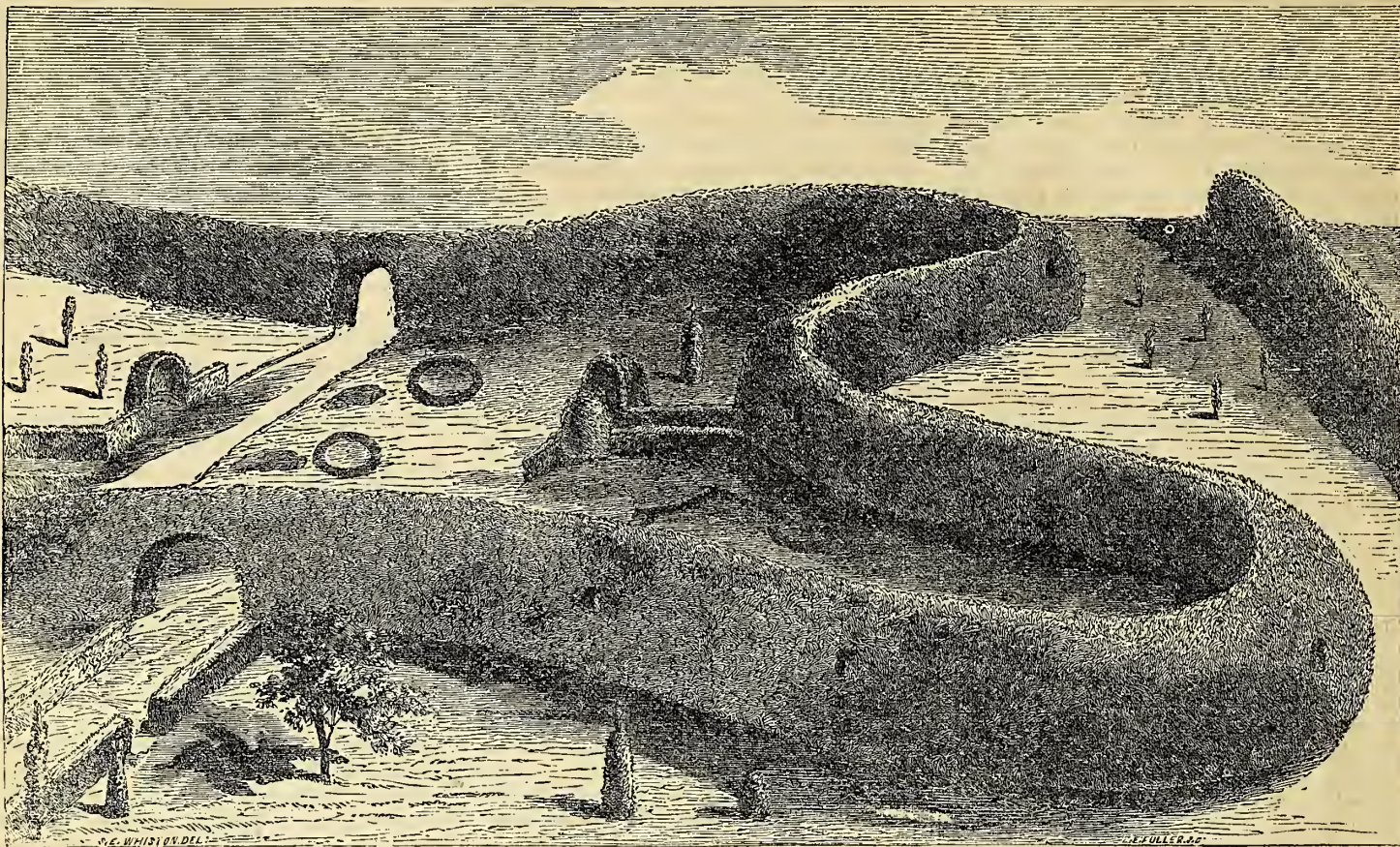
know about any article presented for their examination is, *the facts*: the name of the person introducing it, is to them, a matter of indifference. Their inquiries are, simply—"Is it meritorious? Is it worthy of recommendation to the public? How does it compare with some acknowledged standard in the same department?" And when these gentlemen pronounce judgment, they know that discerning men throughout the country will carefully scrutinize it, and will respect their opinion only as it proves to be well founded. One, or at most two instances of weak or biased judgment will destroy their reputation with the public. Hence, we say, impostors keep clear of these societies. Their wares will be weighed in honest scales, and if they prove wanting, the public will be told of it.

For these, and other reasons which need not be enumerated, we bid the pomological societies, good speed! and urge upon all fruit growers to share in the benefits of membership. To the members we say, make it your sole object to gather and to disseminate *facts*, regardless whether it affects this or that man's personal interests. Associated effort can accomplish vastly more in the way of experimenting, than individual effort can—why should we lose this advantage, because of an occasional abuse of it? Do not be too ready to suspect a brother member of sinister design, because he advocates this, or condemns that. Give him a chance to be honest. Strive to gather into your society a large number of careful observers and candid, upright men, for they are the men who give weight to a society's judgment. Let each man bring to the meetings his best information, and try to make the discussions useful and entertaining. And, as one has well said, "Let there be courtesy in debate, brevity of speech, decorum, and the careful observance of parliamentary rules; for thus only can the rights of all be secured. In the absence of these, wordy and discursive debate soon assumes the whole field, and the true object of the meeting is lost."

God Seen in the Flower.

The argument for the existence and wisdom of God, drawn from the marks of design in the works of creation, is one which can not be controverted. And it meets us at every step. In this flowering month of June, the gardener may discover so beautiful an illustration of divine wisdom, that we must call special attention to it. It is in the habits of the plant known as *Colchicum*. It blooms in October, sending up from the damp soil its flower-stems without leaves, and then disappears. Flowering thus just upon the verge of Winter, it has not time to perfect its seed and so provide for its own reproduction. But the un-matured seed lies protected in the bulb below ground through the Winter; then, in the Spring, up shoots a fruit-stalk on which the seeds mature and ripen, about the first of June. What an admirable provision! Does this happen by chance

EVERGREEN SEEDS should be sown in a shady place, covered shallow with a mixture of sand and peat or loam. The shade of an evergreen tree is a good place to sow the seed. If exposed to the full rays of the sun, many of the young trees will die off the first season. It takes a long time to get trees large enough for a hedge, or for planting, and if time is any object with the planter, it is much cheaper to purchase trees from a well established nursery.



FRENCH AND DUTCH STYLE OF ORNAMENTAL GARDENING.

Topiary Work in Gardening.

It is interesting to note the revolutions going on in the art of gardening. Here, as in fashionable life generally, customs come and go, only to be viewed and pass away again. We find an illustration of this in the style of ornamental gardening called "topiary-work," so styled from the Latin word *topiarius*, meaning garden-painting, vegetable sculpture, etc. That is, the training and cutting of trees and shrubs in various ornamental and fanciful forms. Arbor Vitæ hedges, cut to regular form, are familiar examples.

This art has been in vogue at different times from an early period. The Romans were very fond of it. Indeed, the word *topiarius* came at length to mean, with them, a gardener, because so much time and skill were devoted to this branch of horticulture. In Girardin's historical essay on ancient gardening, we find many allusions to this taste of the polished Romans. For example, in describing a particular country seat, he says: "The terrace in front of the portico descended to the lawn covered with a species of moss, and adorned with figures of animals cut out in box-trees answering alternately to one another. This lawn was again surrounded by a walk enclosed with tonsile evergreens, sheared into a variety of forms. Beyond this was a place for exercise, of a circular form, ornamented in the middle with box-trees, sheared as before into numerous figures, together with a plantation of shrubs kept low by clipping. * * * * Here again, the internal walks were bordered with rose-trees, and were in a winding direction, which, however, terminated in a straight path, which again branched into a variety of others, separated from one another by box-hedges, and these, to the great satisfaction of the owner, were sheared into a variety of shapes and letters, some expressing the name of the master others that of the artificer, while

small obelisks were placed here and there, intermixed with fruit trees." [See, also, Loudon's Encyclopedia of Gardening, at page 17.]

In the times of Henry the Eighth and Elizabeth, this style of gardening was all the rage. Mr. Downing says: "In these gardens, nature was tamed and subdued, or as some critics will have it, tortured into every shape which the ingenuity of the gardener could suggest; and such kinds of vegetation as bore the shears most patiently, and when carefully trimmed, assumed gradually the appearance of verdant statues,



Fig. 2.

pyramids, crowing cocks, and rampant lions, were the especial favorites of the gardeners of the old school." The garden of the Vatican at Rome has now the name of the reigning pope, the date of his election, etc., cut out in box. The Dutch and the French have for centuries shown a strong partiality for, and indulged in this formal and artificial style of gardening.

During the 17th and 18th centuries, in England this practice was carried to its height, even to absurdity. The poets and wits of the country leveled their shafts at it, and with good effect. Here is a description of a topiary garden:

"There, likewise, mote be seen on every side
The shapely box, of all its branching pride
Ungently shorn, and with preposterous skill,
To various beasts, and birds of sundry quill
Transformed, and human shapes of monstrous size.

* * * * *
Also, other wonders of the sportive shears,
Fair Nature mis-adorning, there were found;
Globes, spiral columns, pyramids and piers
With spouting urns and budding statues crowned,
And horizontal dials on the ground,
In living box, by cunning artists traced,
And galleys trim, on no long voyage bound,
But by their roots there ever anchor'd fast."

The satire of Pope was especially severe, and his

assaults were followed up by those of other wits. "Adam and Eve in Yew," the "Green Dragon in Box," "Noah's Ark in Holly," and the "Old Maid of Honor in Wormwood," withered away before these scorching blasts, and the natural style, the English style, *par excellence*, became all the vogue. Terraces were leveled, strait walks were made crooked, geometrical flower beds were molded into round, oval, serpentine, and all sorts of fanciful shapes; statues and vases and nearly all artificial adornments were proscribed.

But the Dutch, with their usual pertinacity, and the French, with their fondness for art, have retained to this day, many of the features of the ancient mode. Near Paris, and in the villas of Amsterdam, one sees verdant colonnades, (see Fig. 1,) arches, walls, and pyramids in all their glory. It is plain, too, that the style is being revived in England, and in some parts of our own country. Its peculiarities are not now allowed to appear in the most conspicuous parts of one's ornamental grounds, but rather in side scenes, and as episodes and matters of curiosity.

Figures 2, 3, 4, and 5, represent topiary work in the grounds of H. Hunnewell, Esq., West Needham, Mass. Some specimens are formed from the native arbor-vitæ, others from the hemlock, the



Fig. 3.

black and white spruces, and the white pine. All kinds of trees may be sheared into these fantastic shapes, but the slow growing sorts and those of dense habit yield the best results. Deciduous trees make pleasant scenes in Summer, but evergreens are on the whole preferable, being sources of enjoyment throughout the entire year.

Many persons rail at this style of gardening, because it is artificial. Artificial indeed, but is not nearly all gardening so? Away with your

grafted fruit trees, your hybridized plants and fruits, your double flowers, your smooth lawns, your vases, sun-dials, terraces, and all sorts of ornamentation. But not so; let these things remain, only use them in moderation. It is said, and with a show of probability, that the old objections to topiary work in England, arose from the exclusiveness and pride of the owners of grand estates. These aristocrats had gone to great expense in buying, or trouble in training curious specimens of this art, when lo! it was found that poor gardeners all over the kingdom, smitten with the mania, were growing equally fine specimens in their own cottage yards. This would never do. "The quality" must have something that could not be so easily appropriated by everybody. And so, for the time, it was decreed that topiary work should be tabooed: no sculptures were admitted to be genteel except marble, which were so costly that common people could not afford to possess them.—Well, however this may have been, the taste is now reviving, and rich and poor may indulge it. If we may be allowed to advise our readers in this matter, we would say briefly to our northern friends: try, among evergreens, the Hemlock, American and Siberian Arbor Vita, the Spruces all of them, and even



Fig. 4.



Fig. 5.

the White Pine. Among deciduous plants, the Privet, Buckthorn, Hawthorn and Beech are excellent. Our southern friends may employ not only these, but the holly, box, yew, and Osage Orange. Whatever trees are used, let them stand one year after planting, to get well established: then cut them into the desired shape. For a few years, the principal shearing should be done in the Spring; but after they have reached the intended form, they should be pruned chiefly in the Summer, and let this be done several times in the season.

Important Reports on Apples—Valuable Summary.

(Concluded from pages 110 and 143.)

The following reports (69 to 77) comprise the balance of those received to May 10th. This entire list is doubtless the most valuable thing of the kind yet published. The reader will see how great is the range of varieties preferred in the different sections of the country; those residing near each other agree somewhat closely. It adds to the value of these reports, that each one of the whole seventy seven has been prepared independently. A nurseryman stated to us that this table was worth fifty dollars to him alone, and he would willingly have paid that sum to learn the individual opinions of the societies and persons of good authority who have kindly furnished their lists. These opinions will be proportionally useful to private individuals.

69. Cheshire Co., N. H.—Report from Lewis Taylor.

Summer. Autumn. Winter.

Early Harvest.	Pear Apple.	Northern Spy.
William's Favorite.	Fall Pippin.	Peck's Pleasant.
Yellow Bough.	Porter.	Mother.
	Gravenstein.	R. I. Greening.
		Baldwin.
		Ladies' Sweeting.

70. Fairfield Co., Conn.—Report from R. W. Holmes.

Early Harvest.	Holland Pippin.	Esopus Spitzenburg
Red Astrachan.	Maiden's Blush.	R. I. Greening.
American Summer	Gravenstein.	Baldwin.
Pearmain.	Fall Pippin.	Am. Golden Russet.
Yellow Bough.	Peach Pond Swg.	Roxbury Russet.
		Ladies' Sweeting.

71. Orange Co., N. Y.—Report from L. M. Ferris.

Early Harvest.	Fall Pippin.	Newtown Pippin.
Red Astrachan.	Porter.	Esopus Spitzenburg
Early Strawberry.	Dutch Mignonne.	King of Tompkins Co.
Yellow Bough.	Gravenstein.	Baldwin.
	Autumn Sweet	R. I. Greening.
	Bough.	Ladies' Sweeting.

72. Delaware Co., N. Y.—Report from William Stenson.

Early Harvest.	Twenty Ounce.	R. I. Greening.
Early Joe.	Autumn Bough.	W. Seek-no-further.
William's Favorite.	Late Strawberry.	Esopus Spitzenburg
Golden Sweet.	Sops of Wine.	Golden Russet.
	Jersey Sweeting.	Golden Pippin.
		Talman Sweeting

73. Fayette Co., Pa.—Report from J. T. Smith.

Early Harvest.	Fall Pippin.	Baldwin.
Yellow June.	Ashmore.	R. I. Greening.
Carolina Red June.	Rambo.	Wine Sap.
Yellow Bough.	Pumpkin Sweet.	Esopus Spitzenburg
		Roxbury Russet.
		London Sweet.

74. Geauga Co., Ohio.—Report from Geo. W. Dean.

Red Astrachan.	Lowell.	Peck's Pleasant.
Summer Rose.	Porter.	R. I. Greening.
Summer Queen.	Maiden's Blush.	Baldwin.
Yellow Bough.	Twenty Ounce.	Red Canada.
	Autumnal Swaar.	Hub. Nonsuch.
		Danver's Winter.

75. Cass Co., Ind.—Report from James C. Bennett.

Early Harvest.	Rambo.	Yellow Bellflower.
Carolina Red June	Wine Apple.	Wine Sap.
Summer Queen.	Maiden's Blush.	Raul's Janet.
Lift Sweeting.		Vandevere of N. Y.
		Red Sweet Pippin.

76. Cass Co., Mich.—Report from T. B. Seely.

Red Astrachan.	Maiden's Blush.	Baldwin.
Early Harvest.	Rambo.	R. I. Greening.
Keswick Codlin.	Fall Pippin.	Swaar.
Yellow Bough.	Holland Pippin.	Esopus Spitzenburg
	Jersey Sweeting.	Golden Russet.
		Talman Sweeting

77. Macomb Co., Mich.—Report from A. Struter.

Early Harvest.	Hawley.	Esopus Spitzenburg
Red Astrachan.	Lowell.	Baldwin.
Golden Sweet.	Fall Pippin.	W. Seek-no-further.
Yellow Bough.	Rambo.	R. I. Greening.
	Belmont.	Northern Spy.
		Ladies' Sweeting

General Summary.

It will be seen on looking over the whole of the 77 reports, that a few, and only a few, of the varieties of apples, are in universal favor. We have made a careful collation of the number of those who have voted for each variety, both in the whole country, and also by sections. A large number which received less than three votes, being local varieties, are omitted for want of room.

NUMBER OF VOTES IN THE WHOLE COUNTRY.

For Summer.		No. of Votes.	No. of Votes.	
Early Harvest.	63	Benoni.	5	
Red Astrachan.	48	Keswick Codlin.	5	
American Summer	14	Primate	4	
Carolina Red June.	11	White Juneating.	3	
William's Favorite.	10	Sops of Wine.	3	
Early Strawberry.	9	Sweet.		
Summer Queen.	8	Yellow Bough.	47	
Summer Rose.	6	Golden Sweet.	13	
Early Joe.	5	High Top	8	

For Autumn.		No. of Votes.	No. of Votes.	
Fall Pippin.	42	Golden Pippin.	3	
Porter.	35	Autumn Swaar.	3	
Gravenstein.	35	Fall Queen.	3	
Rambo.	33	Cooper.	3	
Maiden's Blush.	24	Hubbardston Nonsuch.	3	
Famense.	21	Fornwalder.	3	
Lowell.	9	Sweet.		
Late Strawberry.	8	Jersey Sweeting.	16	
Hawley.	5	Pumpkin Sweet.	7	
Twenty Ounce.	4	Autumn Bough.	7	
Smokehouse.	4	Golden Sweet.	6	
Fall Wine.	4	Northern Sweet.	3	
Holland Pippin.	4			

For Winter.		No. of Votes.	No. of Votes.	
Baldwin.	46	Rome Beauty.	5	
R. I. Greening.	43	Fornwalder.	4	
Roxbury Russet.	25	Limber Twig.	4	
Esopus Spitzenburg.	20	Moonmouth Pippin.	4	
Yellow Bellflower.	14	Belmont.	3	
Northern Spy.	14	Ridge Pippin.	3	
Hubbardston Nonsuch.	13	Ortley.	3	
Raul's Janet.	13	White Pippin.	3	
Wine Sap.	12	Red Canada.	3	
Westfield Seek-no-further.	11	Pryor's Red.	3	
Golden Russet.	10	Rambo.	3	
Smith's Cider.	10	Talman Sweeting.	24	
King of Tompkins Co.	10	Ladies' Sweeting.	21	
Peck's Pleasant.	9	Winter Sweeting.	3	
Newtown Pippin.	8	Broadwell.	3	
Swaar.	7			
Jonathan.	6			

NUMBER OF VOTES BY SECTIONS.

It will be useful to subdivide the general list into sections, to show at a glance, the most popular varieties in special localities. It will be well, however, for the reader to look through the reports themselves, to judge of the kinds

adapted to any particular locality. Thus, for example, the Baldwin is preferred in Northern New-England, while along Long Island Sound it is ranked third. Similar differences occur between northern and southern New-York.

Votes in New-England States.

SUMMER.		AUTUMN.	
Early Harvest.	14	Sops of Wine.	3
Red Astrachan.	13	Sweet.	
William's Favorite.	7	Yellow Bough.	13
Porter.	13	Maiden's Blush.	2
Gravenstein.	13	Sweet.	
Fall Pippin.	4	Golden Sweet.	6
Famcuse.	4	Northern Sweet.	3
Baldwin.	17	Peck's Pleasant.	6
R. I. Greening.	14	Esopus Spitzenburg.	3
Roxbury Russet.	11	Northern Spy.	3
Hubbardston Nonsuch.	7	Ladies' Sweeting.	9

Votes in New-York State.

SUMMER.		AUTUMN.	
Early Harvest.	17	Early Strawberry.	3
Red Astrachan.	13	Primate	3
Amer. Summer Pearmain.	4	Sweet.	
Early Joe.	4	Yellow Bough.	16
Fall Pippin.	14	Twenty Ounce.	2
Gravenstein.	13	Primate.	2
Porter.	11	Jersey Sweeting.	7
Hawley.	4	Autumn Bough (s).	6
Baldwin.	17	Swaar.	4
R. I. Greening.	15	Hubbardston Nonsuch.	4
Esopus Spitzenburg.	11	Westfield Seek-no-further.	3
Roxbury Russet.	7	Newtown Pippin.	3
Northern Spy.	7	Talman Sweeting.	10
King of Tompkins Co.	6	Ladies' Sweeting.	6

Votes in New-Jersey, Pennsylvania, Delaware, Maryland, and Virginia.

SUMMER.		AUTUMN.	
Early Harvest.	9	Sweet, Yellow Bough.	2
Red Astrachan.	7	Green Sweet.	3
American Summer Pearmain.	4		
Rambo.	7	Maiden's Blush.	4
Porter.	5	Smokehouse.	4
Fall Pippin.	5	Jersey Sweeting.	8
Baldwin.	9	Fornwalder.	4
R. I. Greening.	6	Northern Spy.	4
Smith's Cider.	6	Ridge Pippin.	3
Roxbury Russet.	4	Ladies' Sweeting.	4

Votes in Ohio and Indiana, including Adrian, Mich.

SUMMER.		AUTUMN.	
Early Harvest.	12	Summer Queen.	2
Red Astrachan.	6	Benoni.	3
Summer Rose.	6	Sweet Yellow Bough.	3
Carolina Red June.	3	Golden Sweet.	5
Rambo.	12	Gravenstein.	3
Fall Pippin.	10	Porter.	3
Maiden's Blush.	8	Lowell.	3
Late or Autumn Strawberry.	3	Jersey Sweeting.	5
Fall Wine.	3		
Yellow Bellflower.	6	Wine Sap.	3
R. I. Greening.	6	Smith's Cider.	8
Belmont.	5	Rome Beauty.	5
Westfield Seek-no-further.	4	Broadwell (Sweet).	3
Raul's Janet.	3	Talman Sweeting.	3

Votes in Wisconsin, Illinois, Iowa, and Utah.

SUMMER.		AUTUMN.	
Early Harvest.	8	Keswick Codlin.	1
Red Astrachan.	6	High Top Sweet.	5
Carolina Red June.	4		
Rambo.	7	Fall Pippin.	3
Maiden's Blush.	5	Pumpkin Sweet.	3
Famcuse.	4		
Yellow Bellflower.	6	Golden Russet.	3
Raul's Janet.	5	Westfield Seek-no-further.	3
Wine Sap.	4	Talman Sweeting.	6

Votes in Missouri, Kentucky, Tennessee, Mississippi.

SUMMER.		AUTUMN.	
Early Harvest.	5	Red Astrachan.	3
Carolina Red June.	3	Sweet, Yellow Bough.	3
Fall Pippin.	2	Fornwalder.	2
Gravenstein.	2		
Raul's Janet.	4	Limber Twig.	2
Yellow Bellflower.	2	Pryor's Red.	2
Wine Sap.	2		

OSAGE ORANGE HEDGES.—J. N. Collett, Shelby Co., Ind., set Osage Orange plants one foot apart, cut back the first season's growth to within six inches of the ground, and so continued to cut every June and September to within six inches of the former cuttings, until sufficiently high, when only the September cutting was continued, to keep the hedge in reach. He finds it a protection against all stock except hogs. He regrets not having planted more closely.

How to Transplant Evergreens.

In the more Northern States, the first half of June is an excellent time for the setting of evergreens. They may, indeed, be removed at other times, with safety, if the work be well done. A nurseryman in our vicinity transplants them in every month of the year, except in mid-winter, with impunity. He does it with great care, keeps the roots out of the ground but a few minutes, and in dry weather mulches the ground. He seldom loses a tree; yet, like a sensible man, he holds, with all experienced planters, that, as a general rule, the best time for re-setting is in the early Summer, when the tree is just bursting into its first growth.

The physiological reason for this, so far as we know of one, is as follows: An evergreen tree is always clothed with foliage, and if dug up and reset early in the Spring, while in a dormant state, the leaves make an immediate and constant demand on the roots, which they, in their mangled and inactive state, can not meet. In this they differ from a deciduous tree, which, if transplanted when in a dormant state, has no foliage to suck up and evaporate the moisture from its roots. But if we wait until the evergreen is fully roused, and is just starting into vigorous growth of root and branch, it may be taken up and re-set without injury. The roots soon heal over, and push out new fibers into the soil, and root growth proceeds so rapidly that evaporation does not exhaust it. In short, the removal is performed at the time when the tree is best able to bear the shock.

A few words now in detail, as to the manner of doing this work well. Trees may be taken at once from the forest or open field, if much care be used. The holes to receive them should be previously dug, making them of generous size, and, if the soil is not good, bring in from the garden two or three bushels of fine earth for each tree. Then choose a cloudy day—a moist one, if you are water-proof—for the digging up and re-setting. Take a sharp spade and a few old mats; hitch up Dobbin and drive to the woods—though if the trees can be found in an open field, they will be better furnished with dense branches to the ground, and will be more sure to live. Do not dig up the tree as you would a post, but cut a large circle around it, so as to include as great a mass of roots as two or more can lift into the wagon; and all the earth you can preserve about the roots, will be so much gain. Having dug up the desired number of trees, cover the roots with your old mats, and drive homeward with care and dispatch. Now loosen up the soil in the holes, pare off smoothly the bruised roots, set in your trees, spreading out the roots in all directions, and filling the interstices with fine mold. When each tree is about half planted, pour in half a pail of water and let it settle; then fill up with earth. After all the trees are set, it will be advisable to drive in temporary stakes on the windy side of any tall specimens, to prevent their being blown about violently and loosened at the roots. An excellent article with which to tie the trees to the stakes, so as to prevent chafing the bark, is cloth *lining* from the tailors' shops.

Here, transplanting, as commonly performed, ends,—but an indispensable part of the process remains, viz: mulching the roots. Leaves are the very best material for this purpose, but old tan-bark is good, and straw will answer well. Put on a layer an inch or two deep. Something of the sort should be used, as it will save the necessity of subsequent waterings, and will al-

most ensure their living, and making a vigorous growth, even during the first season.

The above directions apply particularly to the transplanting of evergreens from the wood-side and field. There are advantages, however, in procuring them from the nurseries. Here your range of varieties is greater. They are generally better shaped specimens. They have been transplanted several times already, and, having thereby formed large mats of fibrous roots, are quite sure to live.

For evergreens which have to be set in windy quarters, we strongly advise the planting of a few "nurse-trees," (the American arbor-vite, for example,) on the stormy side, to break the violence of the wind. If they are not protected in some way, they will be battered to pieces, and become shabby, one-sided specimens. Keep the nurses there for several years, until the favorite tree is well established and vigorous, then they may be removed.

Desirable Evergreens.

There is as great a choice in conifers as in other trees. Some are lank and scrawny, and straggling; others are only half-hardy, and need protection in Winter; others are altogether too tender for northern climates; and others still are peculiarly subject to the attacks of insects.

Among our readers there are many who are just establishing small places, and who wish to plant a few of the very best evergreens, and only such. Then there are others who have large grounds to embellish, and who want to procure every known species and variety that is really hardy and desirable. We will now try to accommodate both classes, by giving a list and short descriptions of those with which we are acquainted, placing the best at the head of the list, and the others in their supposed order of merit. Our friends can then select as many as they desire for their particular uses.

HEMLOCK SPRUCE. (*Abies canadensis*).—Native of all our northern hills, and too common to be generally appreciated, it is, notwithstanding, the most beautiful of evergreens. The Deodar and Lebanon cedars, the *Araucaria*, the Norway Spruce, and others, have their several excellences, but, all things considered, they must yield the palm to this. Let us see what can be said of it. Hardy, of fair growth when well established, color vivid green, unchanged by hardest frosts, and the style of branch and leaf superbly graceful. Nothing can exceed the beauty of its new growth in early Summer. It is thought to be hard to transplant; and so it is, if taken up from the woods and carelessly handled. If one can not give time and pains to do the work well, let him buy his trees from the nurseries, and then they will be sure to live.

THE NORWAY SPRUCE. (*Abies excelsa*).—Norway has given to mankind three superior things: a grand spruce, a first rate maple, and the world famous violinist, Ole Bull. This spruce is fast becoming the most widely planted tree of our times, unless we except the old Balsam Fir. Its origin ensures its hardihood. Few trees can be more easily transplanted; and even Young America will not complain that its growth is slow. Well did the botanists style it *excelsa*, for it often towers 150 feet high. No Winter's cold changes its bright green color. It naturally takes a fine pyramidal shape, seldom needing any pruning to improve its symmetry. Less graceful than the hemlock, it never looks too coarse for the finest lawn, yet it is bold enough

for the most picturesque scenery. It also makes a strong hedge or protecting screen.

THE WHITE PINE. (*Pinus strobus*).—often styled "Weymouth" pine, in the catalogues. This tree has sometimes fallen into disrepute with planters who have set it in poor soil, or where it was overshadowed by other trees. Give it sunlight, abundance of room to spread itself, and a deep, moist loam, and it will win a good name from everybody. No foreign pine surpasses it. The Bhotan (*excelsa*) is quite graceful, with its long, silky, silvery green foliage; yet it has a sort of languishing, affected air; and withal is not hardy north of Albany, N. Y. And if it were, we should rank it second to the white pine. This last is hardy everywhere, bears transplanting well, and is always green; it is too large for city lots and for village door yards; its appropriate place is at the outskirts. It makes a noble park-tree.

AUSTRIAN AND SCOTCH PINES. (*Pinus Austriaca*, and *P. Sylvestris*).—We place them together, because their merits are similar, their foliage not very unlike, and because they look well when planted in company. The dark sea-green of the Austrian sets off finely the bluish green of the Scotch.

THE CEMBRAN PINE. (*Pinus Cembra*).—A most worthy member of the great pine family. So far as beauty is concerned, it stands above the Scotch and Austrian, but as it is of slower growth, and, we believe, a smaller sized tree, it will probably be less popular. It is sometimes called the Swiss Stone pine, as it abounds on the Alps, and nearly all the mountainous regions of Central Europe. It is certainly hardy in Central New-York, and will doubtless prove so everywhere. It is more compact and regular in its habit than any other pine of our acquaintance, and should be in every collection.

SIBERIAN SILVER FIR. (*Picea pichta*).—Here is the best of the Firs for northern people. It is less prim and precise than the European, but equal in fulness and richness of foliage to the best specimens of the native Balsam, and then it does not, like the last-named, become meagre as it becomes old.

EUROPEAN SILVER FIR. (*Picea pectinata*).—An exceedingly neat, symmetrical, and lofty tree, sometimes attaining the height of 150 feet. Yet it is hardly suitable for northern climates. From Rochester, all through to Philadelphia, it is very apt to lose its leader in the Winter. Whoever has patience and skill in abundance would do well to try it.

THE BALSAM FIR. (*Picea balsamea*).—It will be hard work for the critics to write down this tree. They say it becomes "a shabby fellow, after it is twenty years old, whose bad clothing a well-trained dog would bark at, as belonging to a beggar." Not always, good friends, as several within range of our window at this moment bear testimony. In some regions and soils, it is more liable to attacks of insects than in others, and when so affected, it has a pitiable look. But where it thrives well, it is certainly worth having. We think it is freer from disease and insects at the North than in the Middle States.

BLACK AND WHITE SPRUCE. (*Abies nigra* and *A. Alba*).—Not equal to their Norwegian cousin, yet desirable in a large collection. The foliage of the White is sometimes double, and heavy, and gracefully pendulous; such specimens are hardly inferior to any evergreen.

THE ARBOR VITÆ. (*Thuja*).—There are many species of this tree. The *Golden* is, perhaps, the most beautiful, yet, unfortunately, it is tender

north of this city. The *Siberian* is the finest hardy species that has yet been fully tested. Its foliage is more compact, heavier, and darker in color than the American, and does not brown up in Winter. When it becomes cheaper, it will be the favorite plant for green hedges and screens. It would be unfair to deny a word of commendation for that excellent drudge, the common American arbor vitæ. With care in selecting specimens and in the after treatment, it often makes a handsome tree. For hedges and screens, it serves an excellent purpose, and grows very rapidly.

THE JUNIPERS. (*Juniperus*).—These trees deserve more attention than they receive. The common American and Swedish are hardy as far north as Albany, N. Y.; they are quite distinct in habit from all other trees, and being of medium size, are well suited to small grounds, cemetery-lots, and other such situations. Some varieties are straggling and loose in their style of growth, but as a general rule they assume a tapering, conical shape, resembling a miniature poplar. An occasional tying in of the branches, and a little clipping of the extremities, improve their appearance.

The *Red Cedar* belongs to the juniper family. It varies much in form and color—being sometimes compact and pyramidal, at others open and spreading; sometimes a dark grass green, and again tinged with blue. It becomes rusty in Winter, and is wont to lose its lower branches, and to become shabby on the sides exposed to severe winds. Give it a partially sheltered aspect, set it in a sandy loam, and it will often make a handsome tree.

There are several other desirable evergreens, which we have not space to describe, or of which our personal knowledge is so slight that we can not speak with much confidence. *Pinus ponderosa*, from Oregon, is a noble tree, resembling the Austrian, though of still larger growth, throwing out its giant arms in a very grand way. Our own specimens, four or five feet high, are doing well; but Mr. Sargent, the Apostle of Evergreens in America, warns us that they will by and by topple over, from their too rampant growth, and their habit of working the crown of the root out of the ground. They will perhaps require artificial support. *Pinus pumilio* seems to be a dwarfish variety of the Scotch, hardy as an oak. *Pinus Benthiana*, *P. Pyrenaia*, *P. Laricio* and *P. Lambertiana*, are reported hardy in some parts of New-England, and on the middle Hudson, and are fine trees. *Thuopsis borealis*, or Nootka Sound Cypress, is undoubtedly hardy, having stood out in the latitude of Albany uninjured. It has the general habit of the Arbor Vitæ, but is more feathery and graceful, and is of a bluish green color. *Cupressus Lawsoniana*, *Picea nobilis*, *Thuja pendula*, and several others promise well, but we are unable now to say more than this with certainty.

Dry Rot in Living Trees and Vines.

The London Gardeners' Chronicle, noticing the unusual prevalence of disease among grape vines in England this year, attributes it in part to the effects of dry rot. This great destroyer of timber, as is generally known, consists of a minute fungus, which, by its growth, disorganizes the substance of the wood, making it brittle and worthless. The Editor of the Chronicle, Prof. Lindley, is convinced by repeated observations, some of them made as far back as 1848, that this fungus may, under certain con-

ditions, establish itself upon the roots of living plants. It first attacks those which, from other causes, have lost their vitality, and gradually advances until the whole of the roots are destroyed, and the plant perishes. Rotten wood lying in the ground may, at first, be the seat of the Fungus, from which it may extend to an unhealthy root. In the case of two grape vines recently inspected, the dry rot was plainly the cause of their death; where it originated, was not ascertained. The presence of excessive moisture or any cause tending to weaken the vitality of the roots, would render vines or trees more liable to attack; hence the importance of a well drained border. It may also be worthy of consideration whether the use of chip dirt in the grape border is not objectionable, for fear of breeding the destructive fungus.

Slugs in Strawberry Beds.

It sometimes happens that strawberry patches mulched with saw-dust or tanners' bark, become infested with worms—though, in our experience, this seldom happens in the use of bark. But when this occurs, if the bed is an old one, we should advise breaking it up as soon as possible, killing the slugs which come to light, and working into the soil a good dressing of ashes or lime. If the worms are not very numerous, watch where they burrow, and then give a good soaking of tobacco water. Make the decoction at the rate of one pound of tobacco stems to three gallons of water; let it soak half a day, stirring it occasionally, and then apply with a watering pot. We have known this to exterminate such "varmints" pretty effectually. Where tobacco stems are not at hand, try salt and water, at the rate of half a pint of salt to two gallons of water. The strawberry will endure salt about as well as asparagus. Sprinkle the brine on the infected districts at evening.

Thin Out the Plants.

We can not allow the month of June to pass without preaching our annual sermon on the above text. Every body sows more seed than he knows it is best to grow where it is sown—he does it supposing that some will prove poor, that others will be eaten by worms, etc., etc. Yet when the plants come up fresh and green, and grow luxuriantly, he finds it very hard to pull up the beautiful things and throw them away. But what would become of those carrots, and beets, and parsneps, if they were allowed to stand crowded together as they first come up? They would look quite like pipe-stems. Let them be thinned out several times early in the summer, and in the final thinning, leave them from two to four inches apart. So with cucumbers, melons, squashes, and Lima beans. Three plants are enough to leave in a hill. This number will make a more vigorous growth, and will mature their products quicker than five or six plants to a hill.

Nor is thinning less needful in the flower-garden. This is important even where one wishes to grow flowers in masses. Small growing plants, such as candytuft, clarkia, etc., may be allowed to stand four inches apart, and larger sorts, such as asters, marigolds, and larkspurs, six or eight. As masses, they will grow better and bloom better than if crowded. But if one wishes to raise specimen plants, they should stand much further apart, say from eight to twelve inches. They will then form miniature

trees, clothed with foliage and flowers from the ground to the top of the plant. If any one doubts the wisdom of so thinning out his plants, let him once try it and report. We know in advance what his report will be.

Raising Cabbages.

Let no one despise this ancient vegetable, so palatable and useful to man and beast. Some sorts are coarse and rank, fit only for the cow-yard, but others are delicate and crisp, hardly inferior to the cauliflower, fit for the table of a king. Among early varieties, the old *Early York* has had hardly a competitor for a hundred years past. The heads are rather small, firm, almost heart-shaped, and of delicious flavor. *Early Nonpareil* is also excellent. *Early Dutch* comes a trifle later, and is first-rate. Then follows the *Drum-Head* or *Flat Dutch*, with its large, spreading, flattish head, and of close, firm texture. If seeds of it are sown in May, the heads will mature in October, and keep well all winter. It is a favorite market sort, bringing, on an average, \$2 50 a hundred. For family use, we confess the *Savoy*s have our preference, especially the curled leaf varieties. Not attempting to mention all the good sorts, we must not, however, forget the *Red Dutch*, the favorite for pickling, and a capital sort for winter consumption.

Can it be that any body in this enlightened land does not know all about raising cabbages? That, for the early sorts, the plants should be started in a hot-bed, and transplanted as soon as the May frosts are over? That, for later sorts, the seed-bed may be made in any warm spot, and the plants be re-set, along through June and July, as may be convenient? Every body knows that the cabbage likes a fat soil. Each plant wants two to three feet square of ground to spread itself in, according to the size of the variety. The ground should be frequently hoed, hilling up the earth around the stems to support them. For details in transplanting, see an article on the subject, in the *May Agriculturist*, p. 149.

In some seasons the cabbage-fly is troublesome. Give him soot, ashes, or air-slaked lime, sprinkled on the leaves before sunrise. Or, set a hen-coop with young chickens near the patch, and they will feast upon the insects. Cabbages are also subject to club-foot or stub-foot, the roots having a swelled or knobby look, and the plants being weak and unhealthy. Some ascribe this to a grub, others to the growing of cabbages too long on the same ground. Whatever the cause, avoid it by choosing a new spot every other year. That wicked grub which eats off so many young plants by night, just above the ground, may be headed off by sprinkling lime around the plants, or by surrounding each stem with a ring of thick paper an inch wide. During the heats of mid-summer, it is well to water the plants with slops from the kitchen sink.

A Cabbage Tree.

For a year or two past we have met with notices in our exchanges, of a wonderful cabbage tree, said to be growing in Calaveras Co., California. It was described as having grown during five years from an ordinary cabbage plant, to near fifteen feet high, and as having borne fifty or sixty heads of cabbage last year. This appeared so like a humbug, that no notice was taken of it. The last No. of the *Country Gentleman* contains a letter from James Hepburn, the

owner of the curiosity, enclosing seeds of the veritable tree, which he says is an evergreen, and appears to grow the whole year. When the trees from this seed are fairly established, we shall report.

The Egg Plant—(*Solanum Esculentum*.)

This vegetable has not yet attained the popularity it deserves. It is quite extensively grown by market gardeners, near cities, but we have seldom seen it on the farmer's table. Some have not yet learned to love it, more's the pity, for one accustomed to the taste, finds it, if well cooked, almost equivalent to both meat and vegetables. The plant is of African origin, of too tender habit to be grown in open ground from the seed at the far North; but by starting in the hot-bed, or in pots in the house, six or eight weeks before corn planting time, it can be transplanted in June, and brought to maturity.

In this latitude there is a chance that plants may be grown to bear from seed, sown even as late as June 1st. We have generally found it most convenient, to obtain a dozen or two plants from those who grow them for sale.

The Egg Plant needs a very rich soil, with warm exposure. Fork into the ground devoted to it, a liberal supply of horse manure, and set the young plants, three feet by two apart. Hoe frequently throughout the season, and hill up gradually until the blossoms appear.

Under good treatment the fruit will grow to the size of a large muskmelon. When it has attained about the size of a goose egg, it is ready for cooking, and continues good until its deep purple color changes, and the seeds turn brown. They are cooked in various ways. Usually, slices one-fourth to one-half an inch thick are fried in butter or lard. This makes too rich a dish for weak stomachs, and not over-healthy for any; indeed frying is a poor way of cooking any food. Another way is, to simmer them with plenty of water, until quite tender, remove the skin and mash them smooth, incorporating with the pulp grated bread crumbs, and seasoning with marjoram and pounded cloves. Then brown the whole in the oven. Or, cut the plants in halves, remove part of the middle, fill with stuffing as for a turkey, and bake. *

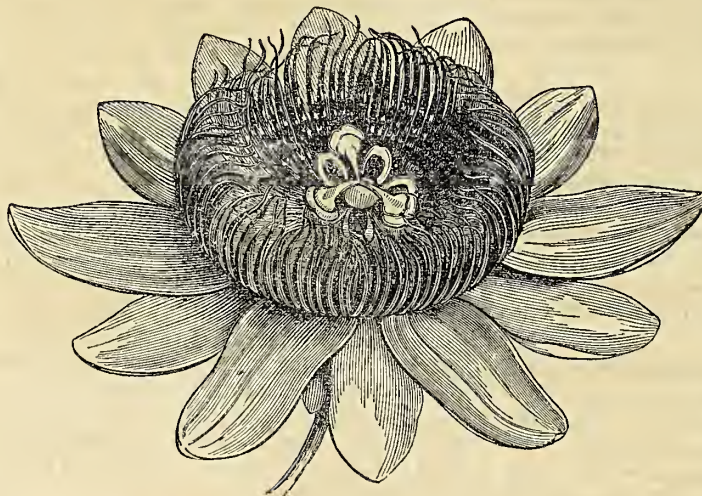
Raspberry and Blackberry Plants.

The crop of fruit next year will depend much upon the number and vigor of the new shoots grown this season. Persons ignorant of their nature have hoed up all young canes, as so many trespassers. Of course they got no fruit the following year, as the shoots only bear the second season, and die in the Fall. Others, again, allow too many canes to make a weakly growth, with not enough vigor to produce a full crop of fruit. Avoid both extremes, leaving just sufficient good strong shoots to keep the patch in a vigorous condition. The oldest planted raspberry roots in the writer's grounds, were set 15 years ago, and they are now the best, yielding large strong canes which bear abundantly.

Replace Weak Plants.

If every beet, carrot, melon vine, and other plant in the garden were of strong growth, the yield would often be nearly doubled. Owing to defective seeds, improper planting, injury from insects and other hindrances, from one-fourth to one-third or more of the plants in a garden often

fall below the normal standard. This can be partially remedied while thinning the plots. First, of course, be careful to leave the plants of most vigorous growth, even though they stand a little outside of the prescribed distance apart. Then remove spindling specimens, select the best from those which are to be removed and transplant them so carefully, that they may go on growing without check. This will often prove profitable, especially with melons and other vines, where a large produce is yielded from a single seed. In some cases it would pay to make over a whole bed, and plant new seeds to take the place of the stunted plants which had been started too early. Where the first roots of a plant have been developed under unfavorable circumstances, as coldness or wetness of the soil, etc., they are weak, and poorly fitted to nourish the plant, which will, in consequence, remain dwarfed for a considerable time. For this reason late planted vegetables often yield better than those sown at the opening of Spring.



The Passion Flower.

Our artist has given a faithful representation of the form of this beautiful flower. It needs the addition of the various shades of color to give some idea of its richness, but no artist's skill can equal the elegance displayed in the flower itself. The specimen shown above is new to us, the name given was *Passiflora Descaine*. It is singularly beautiful in its shadings, and one of the finest ornaments of the hot-house. Being a tropical plant, it needs stove heat and a moist atmosphere for its development; with these conditions supplied, it grows with great luxuriance, the vine extending fifty feet, or more. It blooms freely three or four times in the season. The vine from which the above was taken, is now (May 1) in flower. It is propagated from cuttings, which root readily in the hot-house, and the vines may afterward be grown in pots, or better in the bottom soil of the house.

There are several other species of Passion flower, a few of which are natives of this country, and not particularly attractive in vine or flower. The name was given from a comparison of the various parts of the blossom to the instruments used in the crucifixion of Christ. According to tradition, the vine was common in Judea, but no bloom had ever been noticed upon it until after the crucifixion; when, it is said, the disciples were astonished to see it unfold, and display the crown of thorns, the cross, and the nails, and they at once named it the Passion flower. This, of course, is only fanciful, but it

adds not a little to the interest with which this wonder of the floral creation is regarded.

Adorning the Rough Places.

ANNUAL CLIMBING PLANTS.

Many of the rough places about the buildings, fences, walls, unsightly rocks, etc., may be covered with a mass of bloom, from seeds sown or plants set out even so late as the present month. Here are a few of the plants for such purposes, omitting the perennials whose roots should have been set out in April or May.

MORNING GLORY, (*Convolvulus major*), is a vigorous rapid growing climber, bearing any amount of harsh treatment. It often attains a height of 20 feet in a season, and blooms from July to September, but unfortunately the flowers are only open for a few hours in the morning, unless in cloudy or rainy weather. The foliage is abundant, and forms a good screen over

an unsightly building, rustic arbor, or lattice work. The vine will climb a string or wire in any direction. Its large tubular or funnel shaped flowers, of white, blue, purple, pink and variegated colors are quite conspicuous. Sow the seed one half inch deep any time in May or June. The dwarf variety, (*Convolvulus minor*), a smaller sort, runs from 6 to 10 feet, but branches very much, and will form a dense mat of foliage and fine bloom.

THE CYPRESS VINE

(*Ipomea quamoclit*) is the

ladies' favorite. Graceful in foliage and habit, with a neat and attractive flower, it may well claim a conspicuous position near the house, or in the frequented portions of the flower garden. Its feathery leaves give little concealment, as a screen, and on this account it is usually trained upon wires, or strings, attached to the top of a central stake, say 10 feet in height, and fastened to short stakes set in a circle around the base of the stake, 2 to 6 feet distant from it. This gives a cone 4 to 12 feet broad at the bottom, and running up to nearly a point at the top, say 8 to 10 feet high. The trellises may be of any desired form, however. Sow the seed in this circle, or elsewhere, after soaking it in tepid water for 12 hours. Sow from the middle of May to first of June, covering one half inch. It is useless to sow the seed before the ground is warm, and they are a long time in vegetating unless soaked. The flowers, of funnel form, deep crimson, or white, open in the morning, and continue in bloom from August until killed by frost.

COBEEA SCANDENS.—A comparatively new perennial plant from Mexico, and requiring the protection of a green-house during Winter. Sown in a warm situation in May, or even in June, it will still run 30 to 50 feet, and flower in Autumn, retaining its bloom after considerable frosts. It succeeds best, however, started in a hot-bed, and planted out early in June. Its flowers are bell-shaped, of large size, purple, and very attractive. A valuable climber for covering sides of stone, brick, or wooden houses. It has run over 100 feet (and it is said over 200

feet,) in a single season, under favorable circumstances. But few persons can get seed this year; we imported a large lot, at great cost, but it was all called for at an early date. Those who can not get seed this year, should bear it in mind next season. We are raising all we can, and shall also import a good supply for next winter's distribution.

NASTURTIUM (*Tropæolum majus*).—This is a sort of trailing plant, extending 4 to 6 feet, and well calculated to cover rubbish of stones, earth, walls, etc. The dwarf varieties are mere bushes. Sow at any time in June, covering one inch. Besides fine foliage, bright scarlet and yellow hood-shaped flowers; the green seed capsules furnish very excellent pickles.

CANARY-BIRD FLOWER, (*Tropæolum peregrinum*), runs more to vine than the nasturtium, and produces bright yellow flowers from August until killed by Autumn frosts. Sow in a light soil with a sunny aspect.

THE SCARLET RUNNING BEAN, (*Phaseolus multiflorus*), gives a showy flower and good fruit. It is also of rapid growth, running 10 to 15 feet in a season, and it is often used to cover a screen. Plant from middle of May to June 10th, half an inch deep. The blossoms frequently drop in hot, dry weather, but set pods in Autumn.

Mock Orange, Balloon Vine, Sweet Peas, Purple Hyacinth Bean, Fumitory (*Corydalis*), Thunbergia, etc., may be added to the list if not already large enough, all of which may still be sown.

Century Plant on Exhibition.

We have now, (May 11,) on exhibition at our office, a fine specimen of the **AMERICAN ALOE**, (*Agave Americana*), commonly called the "Century Plant," because popularly supposed to bloom only once in a hundred years. (This specimen will probably remain here until after June 1st, and may be seen by all who find it convenient to call.) It was grown in the garden of Capt. D. Hitchcock, near New Orleans, La., and is exhibited here by Mr. D. Bidwell, who has brought with him a number of smaller plants, and one very large one, which had commenced to send up its flower stalk, and was to have been exhibited in a glass structure. But unfortunately, both for Mr. B. and for the public, the flower stalk was broken by accident, in removing it from the ship after its arrival. This was only 6 feet high at the end of March, but had grown to 25 feet by April 25th, when it was shipped. It grew 3½ feet during the passage. The specimen at our office is very fine, about 30 years old. Another large specimen it is hoped will bloom next season, and is to be taken to the "World's Fair" at London in 1862. The accompanying cut gives an imperfect view of the mature plant when in bloom, with a flower stem 40 feet or more in height. In shape it resembles an enormous candelabrum of pyramidal form, bearing, on the arms or branches, clusters of greenish yellow flowers, which are produced for two or three months in succession.



INHABITANTS OF A SALT WATER AQUARIUM.—1. *Edwardsia vestita*; 2, 3. *Geniaster equestris*; 4. *Cribella Oculata*; 5. *Asterina gibbosa*; 6. *Palmipes membranaceus*; 7. *Palæmon serratus*.

For the American Agriculturist.—(See page 150.)

My Salt Water Aquarium.

It is about two years since I commenced keeping a salt water aquarium. Like the fresh water aquarium described in the May *Agriculturist*, it holds about twenty gallons of water, but the ends as well as the sides, are of glass. The principal difficulty with respect to a marine aquarium is the obtaining of pure ocean water, without which experience tells me there is no hope of real and gratifying success. There is no other difficulty, however, and there are few things more beautiful or more interesting than this miniature representation of the wonders of the deep. The best of all marine plants or weeds for the purpose of aeration, is the common sea lettuce, so abundant on all our coasts. It is best to obtain it, however, from below low water-mark, where it has been constantly submerged, as it must be in the tank. The small red and variously colored sea weeds may be added for the sake of their beauty and ornamental character, but they should be removed as soon as they show signs of decay. No sea weed that is loosened from the rock on which it grew, is of any value whatever. It will never take root again, or vegetate. This must be borne in mind. Plenty can be found, however, adhering to pebbles, oyster shells and small pieces of rock, and these must be placed bodily in the aquarium, having first been cleared of any small shell fish. And it must be remembered also that whatever water escapes by evaporation, must be replaced by pure fresh water, for the obvious reason that the salt remains in the tank, and the water only diminishes. In all other respects than these, the

commencement and general management of salt and fresh water tanks are the same.

And now step with me into the conservatory and examine my salt water aquarium. Perhaps the most curious of its contents will to you be the sea anemones. They are not flowering plants, although they look as though they were. They are animals, properly so called. Drop a morsel of fish, or even of raw meat into the center of that seeming floral crown, and those countless tentaculæ will instantly close upon it, for there is a somewhat capacious mouth, and on the florescence again expanding, nothing will be seen of the food. Firmly as its base now adheres to that rock, to-morrow it will probably be at the other end of the tank, or half way up the glass side. That variegated and chequered one, with trunk-like tentaculæ is a native of the coast of England; while that one, with scarlet base and long white tentaculæ tipped with amber, came from the warmer clime of Florida. Those shy, fidgetty, restless fellows are hermit crabs, the larger and more gorgeous one from Key West, the smaller and more soberly clad from Boston harbor. Those varieties of crabs, those shrimps, snails, and small fish of different kinds, are the usual occupants of every small bay along the coast. But there are my pets—a pair of sticklebacks. They have a history.

There is now no difference of form or color by which the male can be distinguished from the female. But in breeding time they are as unlike as possible. Last year they made their nest—or rather the male made it—in that tuft of sea lettuce. About a fortnight before he commenced that operation, a deep blood color became visible between his scales, giving him the

appearance of being injured and bleeding. Soon the whole under part of his body from lip to dorsal fin, that now is like burnished silver, glowed with the most brilliant vermilion conceivable, while his back was gorgeous with emerald and gold and ultra-marine blue, and his eyes were radiant as sapphire. Simultaneously he became so pugnacious, that no other fish had any peace in the tank with him. His nest was formed with immense labor and care, with an opening through it, and took him a fortnight to build. After the female had deposited her spawn, he kept watch and ward over it, in his brilliant livery, for eighteen days, when the young ones appeared. I could not count them, but estimated them at upwards of a hundred. During the first two or three days, if they strayed an inch or two from the nest, he took them in his mouth and returned them to it. After eight days, apprehensive that he would then devour them, I removed him from the tank, as I had previously the female. I did wrong. A number of shrimps, which his pugnacious vigilance had kept in their hiding places, soon came forth, and the young sticklebacks became their prey. However, I acquired knowledge for my next trial.

R. A. WEST.

Staten Island, N. Y.

For the American Agriculturist.

Hints on Choosing and Preparing Coffee.

BY MRS. E. F. HASKELL.

The principal kinds of coffee in market are: the Mocha from Arabia, the Java from the East Indies, and the Rio from the tropical regions of America. The first named sort is the best in use. The bean of Mocha coffee is of a dark yellowish color, and smaller and rounder than any other. Old Government Java stands next in excellence, and is good enough. The seeds are larger than the Mocha, of a pale yellowish color. The seeds of the Rio variety are large, and have a decided greenish tint.

The older the coffee is, before browning, the better the flavor, provided it has been properly kept. It should be stored in a dry place, not in the vicinity of substances having a strong odor. Brown sugar, spices, etc., ruin coffee if kept in the same room, unless in air-tight receptacles.

Coffee ready browned and ground, on sale at the stores, is seldom pure, and has always parted with some of the volatile oil, which in great part constitutes its value. The more recently the coffee has been browned, the better will be the beverage. In some families it is done daily, but this is hardly necessary. My method of preparing it is as follows: Wash, say five to ten pounds of coffee perfectly clean, rubbing the beans often, through several waters. This is essential, as the process of extracting the berry from the pulp in which it grew, is conducted with little regard to cleanliness. Shake it in coarse towels, until free from surface moisture, and spread it thinly to dry, *without heat*. When quite dry, spread it on bake tins, and dry it in a cool oven, until the color is a very little turned; it is then prepared for browning. Keep it in dry clean bottles, or tin canisters tightly closed, and brown small quantities as needed. The color of well browned coffee is a dark chestnut; a few *burned* kernels will spoil the whole.

Grind the kernels about as fine as Indian meal. My rule for quantity is to allow one tablespoonful for each person, and one for the pot, with one cup of water for each individual. For an *extra* cup for 15 persons allow one pound, before browning, of Mocha, or Java, to five quarts

of water. To have it clear, with each cup of ground coffee mix one-third of an egg, and sufficient water to make it into a paste. Beat the whole briskly, to a foam. Have ready the coffee pot well scalded, put in the mixed coffee, and pour on water nearly boiling hot. Let it come to a boil slowly, and as soon as the grounds rise, stir them down. Boil gently five minutes, then drain off the clear liquor, and add water for the second filling of the coffee pot. Soft water is preferable for coffee; if the water be very hard, a little soda is an improvement—do not use enough to be perceived by the taste. It would perhaps be economical to dry the whites of eggs for winter use. For this purpose, spread them as thin as varnish on white paper, and use bits of paper with the coffee; or spread the eggs upon plates, and scrape off when dry.

The following substitute for cream is preferred by some to the genuine article: Boil one quart of morning's milk, beating it constantly while heating, to keep the cream from rising. Stir a teaspoonful of flour into a little cold milk, and add it to the milk before it is boiling hot, with a large teaspoonful of sweet butter, and continue to beat it. When well boiled, take it from the fire, and when cold, thoroughly mix a well beaten egg with it, and strain it through a sieve. Beat the mixture to a foam before filling the creamer. Stir it in the cup with the coffee as the latter is poured upon it. The cream and sugar should always be placed in the cup before filling with coffee. My family always reduce every cup of coffee with two-thirds boiled milk and cream—using coffee of more than ordinary strength, which I think more pleasant and healthful than a weak cup of ordinary coffee.

About Oil Cloths.

Oil cloths make an admirable summer covering for kitchen floors, and for rooms of general household use. They are cool, neat, easily cleaned, and if of good quality very durable. In selecting a cloth, give preference to those of plain pattern. Highly wrought figures in glaring colors, not only give a tawdry effect, but are more quickly defaced by wear. Slight defects, which would scarcely be noticed in a plain pattern are brought out by contrast with high colors, and the cloth looks shabby before it is half worn out. Before purchasing, see that the paint on the cloth is well "ripened," that is, has been on long enough to harden well. If laid on the floor when fresh from the factory, the upper surface will wear away rapidly, and the under side will be apt to adhere to the floor and peel off when the cloth is removed. It should have been kept in store six months or a year before being laid, and if longer, all the better.

Before laying a cloth, spread three or four thicknesses of newspaper evenly over the floor. Lay them side by side, with the edges meeting: if they lap, the inequalities of surface though very slight, will cause ridges in the cloth, which will wear sooner than the surrounding parts. The papers will aid in the durability of the cloth, and keep it from sticking to the floor, if it be not perfectly "ripened." It is better to let the edges lap in laying the cloth. A plain strip is left on one side, on which the other edge with the pattern carried to the outside, is to be laid to match with the next piece. If this plain strip be cut off, and the two pieces be laid with the edges meeting, dust will work into and under the crack, and look unsightly, and wear the cloth more rapidly. Always pass the tacks through a small bit of leather before driving

them; otherwise the edges will be badly torn by the tacks being pulled through when the cloth is taken up. A coat of white copal varnish applied when the cloth is first laid, and renewed every Spring will add many years to the wear.

It is not necessary to take up the cloth when carpets are put on for the Winter. Spread three or four thicknesses of paper, lapping the edges, to keep dust from working through, lay the carpet on these, and the oil cloth after a good washing in Spring, will come out as bright as ever.

A few Home Questions.

A "Farmer's wife" puts the following home questions to the readers of the *American Agriculturist*. They may appear unimportant, yet if heeded, they would save much weariness of body and vexation of spirit in the household. But she pleads the housekeeper's cause better than a man could do—hear her: "Do you, after having kindled the fire, sweep away the shavings and ashes neatly, or leave them on and around the stove? When you bring in a pail of water, are you careful not to spill it, or must some one use the mop after you every time? When you [men and boys] leave the barn yard, do you scrape the dirt from your boots, or bring it to the clean door steps, or, what is worse, into the house, and scrape it on the nicely polished cooking stove, that has cost an hour's hard rubbing to make bright? Do you ever spit on the stove, floors, or carpets? Do you leave hats and overcoats in the hall?—or do you wear them in and lay them on the table with books, papers, etc., scattering hay seed and dust over the cloth, and its contents, making it necessary to remove and replace them much oftener than would be required, if the rules of order were observed? Do you put your own clothes in their places, or leave them for some female member of the family to take care of?"

I could ask many more questions of similar import, about door yards, gates, garden walks, fences, tool houses, etc., but I will not intrude. I insist that farmers' homes ought to, and might be, as neat and beautiful, as any others if all would do their work in the best manner, or at the earliest opportunity, and not leave for another what they ought to do themselves. I know that long indulged habits are hard to overcome, but may I not hope that young men will heed advice. You would not like to have a slatternly wife; but if you are slovenly in your habits, you could not be happy with a neat one, for she would be dissatisfied and unhappy, and unless she were uncommonly heroic, you would be likely to hear of it. Perhaps you may think these things of very small moment, but I know of but few things that grieve and fret a woman more, when she is weary and dispirited, than to have all her efforts at order and neatness unappreciated; and I know too, "that more offend from want of thought, than from want of feeling." So let me say to farmers' boys, and girls too, if you wish to have pleasant, happy homes, be not only virtuous, but orderly, industrious, and neat.

LAMP LIGHTERS.—A subscriber to the *American Agriculturist* says: Uninjured straws of rye, oats, and wheat, cut in lengths of about 6 inches, are valuable for lighting candles or lamps. Placed in a glass or other small vessel, on the mantel or shelf they are quite ornamental. The above may be valuable in districts where waste paper is scarce.

For the American Agriculturist.

Poisonous Stuff.

There is a weak class of literature, the best description of which is "namby pamby." The lower sort of magazines and the sentimental newspapers which sweep the land are its chosen organs. I know of nothing so perfectly calculated to destroy a common sense view of their lives and wants, in the minds of the partially educated young, as this reading. The style to which I refer will be better understood by describing a few of its leading features.

In it, hero and heroine hunt in couples as usual. His figure is always "Apollo like," with "jetty hair and moustache," and "flashing eye," or else with "auburn" hair, pale face, and "melancholy orbs." One or the other of these is indispensable. The lady must have "coral" lips and cheeks, "pearly" teeth, and her hair, whether "golden," or "raven," must curl, or at least "ripple." Then, her eyes, whichever of the standard colors they happen to be, must always be "liquid."

Now mark what happens latterly in the history of this superfine pair. We shall invariably find him "clasping her to his breast," or else she "bursts into tears and hides her head on his shoulder." In either case they exchange "burning kisses," etc.

What sort of teaching is this for plain Susan who must marry farmer John or Charley, or not at all. Will a careful study of the above make her better satisfied with his square face and shoulders, and not over brilliant eyes? Or should he be a reader of such literature also, will he be apt to think that Susan, whose teeth and complexion resemble neither coral nor pearls, is the one woman in the world for him? And if they marry finally, will they be so apt to feel that perfect pleasure in each other they might have done, had they never read of such very different beings? A horrible tale, full of blood and tempests, and "long glittering blades," would not, from its very impossibility, do a tithe of the mischief of this tame stuff—just such romances as any girl may get up with the "fascinating stranger" who airs his moustache in the vicinity. And here lies the very secret of the 'infatuation,' so called, of many a girl. Her mind had long ago been so imbued with the spirit of these miserable fictions, that it was instinctively on the watch for the same "romantic event," which wiser people call "folly," or "madness."

Many a parent shrinks in horror from the idea of their children reading stories of "dashing pirates," and "bold highwaymen," while on their tables lie printed sheets which hold a subtler mischief than could possibly be conveyed by the careful study of acts, in which, from their very nature, the young folks feel no temptation to engage.

LOUISE.

The Sin that Killed the Baby.

A correspondent writes to the *American Agriculturist* to the following effect. "I recently attended the funeral of a child of three or four summers. The minister during his remarks dwelt upon the fact, that death is the result of sin, which I agreed with; but I thought, while looking upon the lifeless little form, that the sin which killed this little one, was sin against natural as well as spiritual laws. She was clad for the grave in the garments she had worn while living, and the bare neck and arms, exposed while the child was in health, to gratify

the vanity of the parents, had invited the disease which proved fatal. That was the sin which killed the baby, and which is making fearful work with hundreds of others, whose parents prefer fashion to health, and the exhibition of their children's beauty, to the safety of their lives."

This language is none too strong. It is positively wicked to subject tender children to such treatment, which would be fatal to adults of vigorous constitution. In our changeable climate, especially, too great precaution can scarcely be taken to guard the throat and lungs from disease. They need not be kept muffled with warm clothing, but should always have sufficient protection to guard against the sudden changes, for which this country is noted. Keep the children's chests and arms covered, if you would have them healthy.—[Ed. Agr.]

How much Sleep is Needed?

To the Editor of the American Agriculturist.

In the February No. of the *Agriculturist* you say that, from the age of 12 years to the full growth of the body, 9 hours of sleep are absolutely necessary, and that after that 8 will answer, though 9 are better. How will you account for the case of Humboldt, who was a laborious student all his life, and must have incurred many hardships during his extensive travels? He lived to within a few months of 90 years; and yet, from youth up, slept only about 4 hours in the 24. Please answer in the *Agriculturist*.

Lancaster Co., Pa.

J. M. SERTZ.

REPLY.—This question may be readily met with another, viz.: How is it to be accounted for that all men are not Humboldts? There are exceptions to all general rules, particularly those relating to bodily habits. "What is one man's meat is another's poison," expresses this truth. With persons of ordinary constitution, the amount of sleep prescribed in our article is none too much, and the rule was published for their benefit. If our correspondent or others find upon trial that it is too much in their case, let them vary it to meet their own requirements.

Directions for Cookery, etc.

Mutton Hams.

A correspondent of the London Field gives the following directions for pickling mutton hams. Procure a plump leg of mutton, wipe it dry, and put it in a pickle, made of 3 gallons soft water, 1 lb. coarse sugar, 2 oz. saltpeter, 3 lbs. common salt. Boil the above ingredients together, remove the scum as it rises, and immerse the meat when cold. In two or three months' time the ham will be excellent for baking or boiling; a slice cut out and broiled, is very good. It may be smoked, but is by many preferred without that process.

Corned Beef Hash.

This and the following recipe are from the *Housekeepers' Encyclopædia*, by Mrs. Haskell a subscriber, and contributor to the *Agriculturist*:

The best hash is made from boiled corned beef. It should be boiled very tender, and chopped fine when entirely cold. The potatoes for hash made of corned beef, are the better for being boiled in the pot liquor. When taken from the pot, remove the skins from the potatoes, and when entirely cold, chop them fine. To a coffee-cup of chopped meat, allow four of chopped potatoes, stir the potatoes gradually into the meat, until the whole is mixed. Do this at evening, and if warm, put the hash in a

cool place. In the morning put the spider on the fire with a lump of butter as large as the bowl of a table-spoon, add a dust of pepper, and if not sufficiently salt, add a little; usually none is needed. When the butter has melted, put the hash in the spider, add four table-spoons of water, and stir the whole together. After it has become really hot, stir it from the bottom, cover a plate over it, and set the spider where it will merely stew. This is a moist hash, and preferred by some to dry or browned hash.

Browned Hash of Corned Beef.

Heat the hash in a kettle, and mix through it two tablespoonfuls of sweet butter, add seasoning to suit, add a spoonful of water only. Have two tablespoonfuls of melted butter boiling hot in the spider, turn it up and round, that the butter may touch the whole surface of the spider. Put in the hash, press it tightly, and keep it cooking gently without burning. Run a knife under it now and then, to see that it is not scorched. When browned, place a platter over the spider, and turn it out without breaking. It will need two persons to dish it; one to hold the platter firmly on the spider, and the other to turn it out.

Cherry Pudding.

Contributed to the *American Agriculturist* by Mary R. Burwell, Crawford Co., Pa. Take 3 teacupfuls of buttermilk, 3 eggs, 3 teacupfuls of pitted cherries, a small teaspoonful of soda, and a pinch of salt. Stir the mixture well, and thicken with wheat flour, until a stiff batter is formed: then put it in a muslin or linen bag, and boil it 2½ hours. The water should be boiling, when the pudding is introduced. Serve up hot, with sauce to the taste. Sweet cream and sugar make a very palatable accompaniment.

Corn Bread.

Contributed to the *American Agriculturist* by "Mary," Chillicothe, O. Dissolve 1 tablespoonful of butter in 3½ pints of boiling milk; in this scald 1 quart of Indian meal. When cool, add ½ pint of wheat flour, ½ cup of sugar, 1 teaspoonful of salt, 2 eggs, well beaten. Bake in two cake tins, well greased.

Dough Cake.

Contributed to the *American Agriculturist* by Susan Janc, Burlington, Ind. Mix 4 cups of bread dough, 3 of sugar, 2 of butter, 1 gill of wine(?), 3 eggs, 1 teaspoonful of soda dissolved in sour milk, and nutmeg or other spice. Pour the batter into a buttered pan; let it rise; then bake two hours.

Dutch Pancake.

One egg; 1 large spoonful sugar; 1 cup of milk; 2 tablespoonfuls melted butter; 1 teaspoonful cream of tartar; ½ teaspoonful of soda; a little salt; add flour to make them as thick as pancakes. Bake ½ hour; slice and use when warm with butter. For half a dozen persons, take double the above quantities.

Measure Loaf Cake.

Three cups of milk; 2 cups sugar; 1 cup yeast. Make a stiff batter and let it rise: then add 2 cups of butter; 2 cups of sugar; 2 eggs; ½ cup of yeast, mace and nutmeg. When light, stir in the fruit and bake.

Lard Candles.

Contributed by David Shaver, Perry Co., Pa. Take 12 lbs. of lard, 1 lb. alum, 1 lb. saltpeter; dissolve them together, put into a vessel with 1 gill of boiling water on. Pour it into a pot, and stir it over a slow fire, until done frothing; then operate as on tallow candles. It makes pretty good candles.



The Editor with his Young Readers.

About the Picture.

Every body in this country is talking and thinking about war. The boys are as full of it as their fathers, and are ready to shoulder their wooden guns and wave their flags, and show what they would do if they were only men. War is a terrible evil, but in the present condition of the world it seems sometimes to be necessary. When bad men unite their forces to do wrong, it is the duty of good men to unite and sustain the right. But we do not intend here to write about the troubles in this country; there is enough printed in the daily and weekly newspapers to fully inform you of the important events of the time. Read them carefully, for we are now *making history*. We want to call attention to just one point in the pleasing picture above, which represents a little company of school boys playing soldier, and engaged in drilling. Notice the boy who carries the flag. He is better dressed than the others, and has the post of honor in the line. But see how much trouble he makes the captain. His toes are two inches over the line. He is a good-natured looking boy, but he has a careless appearance, as though he felt, "what's the use of being so strict; suppose I am not on the line, what difference will it make?" Now look at the boy with the cap on. He stands up straight as a soldier, with his toes to the mark, and his eyes on his captain, ready for orders. Why do you admire him more than the first? "Because he *tries* to do his best," is the ready answer. That determination will make a man of him. For if he is so careful while at play, he will be the same when at work—that is his habit, and that habit will grow into his character. He is the boy the farmer will want for head workman, the merchant will choose him for confidential clerk, people will seek him for their representative in the legislature. Wherever he goes he will win respect and confidence, and he will be almost certain of prosperity.

But the first boy, though he may have been mother's pet at home, and a clever fellow among his playmates, is likely to grow up a careless, shiftless man, always behind time, always in debt and trouble, of use to nobody, and when he dies few will miss him. Which of these boys will you take for your

pattern? Which are you now nearest like? There is time for most of you to correct habits of carelessness; begin at once and "toe the mark," whether at work or play.

A Noble Boy.

Not long since a neatly dressed little boy not more than ten years old was standing on the sidewalk of a crowded street, watching the people as they passed. Presently a little girl, several years younger than himself, in attempting to cross the muddy street, fell, and soiled her dress and hurt herself considerably. In a moment the little fellow ran to her, helped her up, spoke to her in the kindest tones, inquired where she lived, and led her away towards her home. She was not a pretty child, neither was she handsomely dressed; on the contrary she looked very poor, but the noble little fellow did not stop to think of that. He saw that she needed assistance, and that was enough. His heart was full of kindness, which only waited for an opportunity to show itself. One could easily tell that boy's fortune. He has a good mother, and he listens to her instructions. He will grow up beloved and happy. He will never be poor, for he already possesses the choicest treasure, a kind heart. Try and be like him.

About Names—Days of the Week.

It is an interesting fact that nearly all proper names signify something. The name of the first man, Adam, means red earth; Eve signifies mother; and it was the custom for a long time to give names descriptive of the person or thing designated. Now-a-days, proper names are so plenty, that a new one is seldom invented, and thus we have thousands of Johns, Williams, Marys, Sams, etc. The English names of the days of the week, were given by our Saxon ancestors, who, as you have read, settled in England many hundred years ago. They were idolaters, and they named the days in honor of their principal deities.

Sun-day, as you readily perceive, means, the day of the sun. On that day they worshipped an idol representing that luminary, which is described as being like the bust of a man, set upon a pillar, with outstretched arms holding a burning wheel before his breast. *Monday* means *Moon-day*. The moon was worshipped under the form of a woman with long ears, dressed in a short coat and a hood. She

held in her hand a representation of the moon. *Tuesday* was named from *Tiu*, the Saxon god of war. He is represented as a warrior clad in armor, with a huge sword uplifted. *Wednesday* comes from *Wodin* or *Odin*, the supreme divinity of the Northern European nations. He was represented as a venerable old sage, clothed in the skin of an animal, holding a scepter in his right hand. *Thursday* was dedicated to *Thor*, repented to be the oldest and bravest son of *Wodin*. He was shown seated on a throne, with a crown of gold on his head, adorned with a circle in front, in which were set twelve golden stars; he held a scepter in his right hand. *Friga*, or *Frea*, was the wife of *Wodin*, and *Friday* was derived from her name. She was represented with a drawn sword in her right hand and a bow in her left. *Saturday* commemorated *Sæter*, another name for *Saturn*. He was set up on a perch like a bird. He had lean sharp features, and was bare-headed. In his left hand was a wheel, and in his right a pail containing flowers and fruit. His dress consisted of

a long coat girded with linen. These representations were all, of course, fanciful and absurd, but they go to prove that men in the most ignorant condition feel that there is a superior being to whom worship should be given. Their superstition was indeed pitiable, but was not their blind devotion preferable to the thoughtlessness and neglect of too many who have been taught the existence of the true Deity? If we have more light than they, surely we should profit by it.

Type Setting—Amusing Mistakes.

Have you ever been in a printing office? There are many curious things to be seen there. Perhaps we may describe some of them more particularly hereafter. You would be much interested to watch the *compositors*. They are the men who arrange the types. Each letter, and each punctuation mark is cast on a separate piece of metal, about an inch long, and these are distributed in small boxes arranged in a frame called a *case*. One box is for the A's, another for B's, another for commas, and so on. The compositor holds in his left hand a small iron apparatus looking something like an open box with one side out, in which he sets the types, one by one, placing them in proper order to print the words of the written "copy" before him. It requires long practice for a man to set types quickly, and without making mistakes. Sometimes the changing of a single letter will alter the meaning of a whole sentence. Such errors are usually corrected before the paper is printed, but occasionally an amusing blunder is left. For instance, in printing the Bible once, the compositor in setting up the passage "All that a man hath will he give for his life," made it read "All that a man hath will he give for his wife." The "proof-reader," whose work it is to look for and point out mistakes, found the error, and marked it, but the compositor overlooked it again. The proof-reader seeing the mistake a second time, wrote with his pencil on the margin of the paper, opposite the sentence, "That depends upon circumstances," after which the right letter was inserted. Not long since, a Hartford newspaper, noting the death of an editor, said "He was a high-minded gentleman;" of course it should have read *high-minded*. Another paper says, "the people of India live chiefly on *mice*," instead of rice. Shortly after an election, a newspaper of the defeated party

THE STAR-SPANGLED BANNER.

NEWLY ARRANGED AND BROUGHT WITHIN AN EASY COMPASS FOR CHOIR AND CHORUS-SINGING BY WM. B. BRADBURY.

SOLO, or Semi-Chorus in Unison.

MELODY.—SEMI-CHORUS by Male or Female voices, or Both.

1. { O say, can you see, by the dawn's early light, What so proudly we hailed at the twilight's last gleaming,
Whose broad stripes and bright stars thro' the perilous fight, O'er the ramparts we watch'd were so gallantly streaming? } And the rocket's red glare, bombs bursting in air, Gave

2. { On the shore dimly seen thro' the mists of the deep, Where the foe's haughty host in dread silence re-po-ses,
What is that which the breeze, o'er the towering steep, As it fit-ful-ly blows, half con-ceals, half dis-clo-ses? } Now it catches the gleam of the morning's first beam, In full

PIANO-FORTE OR MELODEON.

ALTO.

TENOR.

BASS.

FULL CHORUS of Choir and Congregation.

proof thro' the night that our flag was still there. O say, does that star-spangled ban-ner yet wave O'er the land of the free, and the home of the brave?

glo-ry re-lect-ed, now shines on the stream! 'Tis the star-spangled banner, O long may it wave O'er the land of the free, and the home of the brave.

3 And where is that band who so vauntingly swore,
'Mid the havoc of war, and the battle's confusion,
A home and a country they'd leave us no more?
Their blood has washed out their foul footsteps' pollution.
No refuge could save the hireling and slave,
From the terror of flight or the gloom of the grave.

CHORUS.—And the star-spangled banner in triumph shall wave, &c.

4 O, thus be it ever, when freemen shall stand
Between their loved homes and war's desolation!
Blessed with victory and peace, may the Heaven-rescued land,
Praise the Power that hath made and preserved us a nation.
Then conquer we must, when our cause it is just,
And this be our motto: "In God is our trust!"

CHORUS.—And the star-spangled banner in triumph shall wave, &c.

intended to say, we are *linked* like a band of brothers," but the types were wrong, and said "we are *licked*, etc." A Missouri paper informed its readers that the wife erop of Gaseonade County, was 25,000 gals.; but before bachelors could profit by such a fine opportunity, the mistake was corrected by putting *wine* in place of wife.

The Cunning Will.

A wealthy old lady had a nephew and niece, and a more distant relative, a young lady; these were the only persons to whom her property would descend by law, when she should die. The first two always made a great show of affection when they visited her, which was but seldom, although she wished that one of them might live with and care for her in her old age. But neither would consent to this, and she therefore employed the young lady as a servant. The old lady was very pious, and spent much time with her Bible; and her young companion, who was also a sincere Christian, loved nothing better than to read to her from its consoling pages. She was faithful in her duties, not merely because paid for it, but she was sincerely attached to her mistress, and delighted to promote her comfort.

In time, the old lady died, and after the funeral, according to custom, a lawyer came to open and read the will in presence of the surviving relatives. It ordered all her possessions to be divided into three parts. The first portion was to consist of the house and lands surrounding it; the second, of the furniture, plate and jewelry, of which there was a large quantity, and the third was only the old Bible which had afforded her so much happiness in life. It was further directed that the nephew should have the first choice of his portion, then the niece, and the young lady should have the remaining part. The nephew instantly chose the house and farm, which were valuable, saying in a sneering tone, "The old lady was not to be fooled by pretended devotion, she well knew who were her friends;"

meaning by this to cast reflections upon the faithful servant. The niece was equally unkind, for she said: "Since Janet loved the old Bible so well, of course she would prefer I should leave it for her, and I will therefore take the furniture and plate." Janet's only reply on receiving the Bible was: "I am content: this book is to me a treasure, and I find in it more than wealth can give."

When all was over, and Janet retired to her room, she turned at once to her Bible, to find some passage that might soothe her wounded feelings. What was her astonishment to find, laid between its leaves, bank notes amounting to more than a hundred thousand dollars, which had been placed there on the day of the old lady's death, and which made up the bulk of her fortune! So you see how in this instance, greediness outwitted itself, and true devotion was abundantly rewarded. Don't forget though, that Janet would have been happier with her book alone, and a contented heart, than the others could possibly be while they cherished the evil feelings of avarice and jealousy.

New Problems.

No. 11.—*Enigma*.—Several mistakes crept into this problem as published last month, which made nonsense of part of the answers. A few persevering girls and boys deciphered it, nevertheless. We give it correct now, that all may have a fair chance: I am a Scripture proper name of 17 letters, representing the darkest shade of iniquity:

My 1, 14, 8, 16, 4, 13, is not yet, but will be universally known.

My 4, 11, 3, 10, 5, 12, 7, was an ancient city.

My 7, 12, 13, 5, 15, 7, was a person noted for great moral courage.

My 17, 15, 7, the most important animal on a farm.

My 12, 9, 17, is essential to successful warfare.

My 10, 2, 6, 17, represents the Humbug "prizes" of the present day.

No. 12.—*Arithmetical Question*.—A man had \$100 to purchase cows, sheep, and geese; he was to pay \$10 each for cows, \$1 each for sheep, and 12½ cents each for geese. He must have 100 head in all, (cows, sheep, and geese,) and only expend \$100; how many must he have of each?

No. 13.—*Word Puzzle*.—Contributed by "Marco." How do you read it?

Friends,	sir,	Friends,
stand	your	disposition.
I	bearing	
A man		the world
is		
contempt		while the
	ridicule.	
	are	
	ambitious	

No. 14.—*Charade*.—I am divided into two parts. My first is half; my last is whole; my whole is half my second.

Answers to Problems.

Illustrated Rebus in April No. (p. 122.) Our young friends have answered all *around* this puzzle, without exactly hitting the true reading. Here is the solution: C low shoe r heart again a w l vise, butt open the door to wall t root h; or, Close your heart against all vice, but open the door to all truth.

No. 8.—*Illustrated Rebus* in May No. (p. 153.)—*Answer*: Two bear in jury eye snow sign of a cow ard; or, To bear injury is no sign of a coward.

No. 9.—*Arithmetical Question*.—The shoemaker lost seven dollars and the boots.

No. 10.—*Anagrams*, from Aunt Sue's "Puzzler."

I get dinuers.	Ingredients.
Ten coons in tar.	Consternation.
Tom's nine hats.	Astonishment.
I attend in poms.	Disappointment.
Find lies.	Infidels.
Sin is content.	Inconsistent.

The following sent in correct answers up to the date of May 15:

Frank L. Strong, 8; Joseph B. Lewis, 8; Christopher Seymour, 9; John B. Newell, 9; A. D. Neff, jr., 9; Sarah Nicholl, 8; M. B. Eshleman, 8; Wm. A. Hoyt, 9, (always send an answer with a problem offered for publication); Delia S. Mitchell, 10; Frank Fancher, 11, (you deserve much credit for solving so difficult an enigma); Lyman Eddy Rockwell, 9; C. L. Siewers and A. C. Siewers, 8, 9, (keep on thinking); Snowden B. Gookings, 3, (name overlooked); Rufus W. Weekes, 9, 10, 11, (8 almost); F. A. Sanders, 9; B. Sullivan, 9; James S. Cooley, 11; Carline, 10; Robert M. Hasbrouck, jr., 9.

Explanation of Latin Phrases in Common Use.

There are many very expressive phrases in foreign languages which are often used by English writers. As a rule we would discourage their introduction into common writing, though they are pleasing to one able to appreciate their full force. But as they will doubtless continue long in use, we have thought it worth while to throw several of them together here, and give the explanation, that our readers may have them at hand for reference. The following are all from the Latin, which was the ancient Roman Language.

Ab Initio. From the beginning.
Ab uno disce omnes. From a single instance you may infer the whole.
Ad captandum vulgus. To catch the rabble.
Ad infinitum. To infinity.
A fortiori. With stronger reason.
Alias. Otherwise; as, Allan *alias* Thompson.
Alibi. Elsewhere.
Alma mater. A benign mother; applied generally to the university.
A mensa et thoro. Divorced from bed and board.
Anno Mundi (A.M.). In the year of the world.
A priori. From the cause to the effect.
Argumentum ad hominem. An argument to the man.
Audi alteram partem. Hear the other party.
Aut Caesar aut nullus. He will either be Caesar or nobody.
Bona fide. In good faith; in reality.
Causa belli. The cause or reason for war.
Caput mortuum. The worthless remains.
Cedant arma togæ. Let arms yield to eloquence.
Compos mentis. In a state of sound mind.
Cui bono? To what good.
Data. Things given or granted.
De facto—de jure. From the fact—from the law.
Delenda est Carthago. Carthage must be destroyed.
De mortuis nil nisi bonum. Let nothing be said of the dead but what is favorable.
Deo volente. With God's will.
Desideratum. The thing desired.
Dulce et decorum, est pro patria mori. It is sweet and glorious to die for one's country.
Dum vivimus vivamus. Let us live, while we live.
Esto perpetua. Be thou perpetual.
Ex cathedra. From the chair; authoritatively.
Ex nihilo nihil fit. Nothing produces nothing.
Ex officio. By virtue of office.
Ex parte. On one part.
Extempore. Without premeditation.
Fac simile. Do the like: an exact resemblance.
Fama semper vires. A good name will shine for ever.
Fas est et ab hoste doceri. It is allowable to derive instruction even from an enemy.
Felo de se. A suicide.
Fiat justitia, ruat cælum. Let justice be done, though the heavens should fall.
Fruges consumere nati. Men born only to consume food.
Hinc illæ lachrymæ. Hence proceed these tears.
Id est (i. e.). That is.
Id genus omne. All persons of that description.
Impromptu. Without study.
In propria persona. In person.
In re. In matter of.
In terrorem. In terror.
In transitu. In passing.
Jure divino. By divine right.
Labor omnia vincit. Labor conquers every thing.
Lapsus lingue. A slip of the tongue.
Lex talionis. The Law of retaliation.
Locum tenens. A deputy or substitute.
Magna est veritas, et prævalet. The truth is powerful and will ultimately prevail.
Memento mori. Remember death.
Mirabile dictu. Wonderful to tell.
Multum in parvo. Much in little.
Mutatis mutandis. After making the necessary changes.
Necessitas non habet leges. Necessity has no law.
Nem. con. An abbreviation of *nemine contradicente*. That is, without dissent or opposition.
Ne plus ultra. Nothing beyond—the utmost point.
Nota Bene (N. B.). Mark well.
Obiter dictum. A thing said by the way, or in passing.
O tempora! O mores! Oh the times, oh the manners.
Otium cum dignitate. Ease with dignity.
Pari passu. By a similar gradation.

Par nobile fratrum. A noble pair of brothers.
Particeps criminis. An accomplice.
Passim. Everywhere.
Per fas et nefas. Through right and wrong.
Per se. By itself.
Pocula nascitur non fit. Nature, not study, must form a poet.
Prima facie. On the first view, or appearance.
Prima vie. The first passages; the upper part of the intestinal canal.
Primum mobile. The main spring; the first impulse.
Principis obsta. Oppose the first appearance of evil.
Pro aris et fociis. For our altars and firesides.
Pro bono publico. For the public good.
Pro et con. For and against.
Pro tempore. For the time.
Quid nunc? What now? applied to a news-hunter.
Quid pro quo. What for what; tit for tat.
Quod erat demonstrandum. Which was meant to be shown.
Requiescat in pace. May he rest in peace.
Respite finem. Look to the end.
Seriatim. In order.
Sic itur ad astra. Such is the way to immortality.
Sic passim. So everywhere.
Sic transit gloria mundi. Thus the glory of the world passes away.
Sine die. To an indefinite time.
Sine qua non. An indispensable condition.
Status quo ante bellum. The state in which both parties were before the war.
Sub silentio. In silence.
Summum bonum. The chief good.
Sum cuique. Let every man have his own.
Tempora mutantur, et nos mutamur in illis. The times change, and we change with them.
Toties quoties. As often as.
Vale mecum. Go with me: a constant companion. (Usually applied to a pocket book.)
Vis inertia. Force or property of inanimate matter.
Versus or vs. Against.
Vice versa. The terms or cases being changed.
Vix et armis. By main force.
Viz. (videlicet.) Namely.
Vox et praterea nihil. A voice and nothing more.
Vox populi vox Dei. The voice of the people is the voice of God.

STANDING PREMIUMS For 1861. Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once. Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Wheeler & Wilson's* best \$45 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of fifteen large volumes of 700 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of *Willcox & Gibbs' \$35 Sewing Machines*, including a set of *Hemmers*. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 32 at \$1 each,) will entitle the person getting up the club to one of the New \$10 Wringing Machines, described on page 247 of the August *Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the August *Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. [If preferred, the best \$8 Subsoil Plow (two-horse) will be given.]

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19,) sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post paid. 20 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cent each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 34 cents for extra postage above the 6 cents per ounce which we pay.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each (or 125 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to *Geo. A. Prince & Co., Buffalo, N. Y.*, for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or 105 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or 90 at \$1 each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$45 Melodeons* (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) to the amount of 12½ cents for each name forwarded at 80 cents, (or 3½ cents for each name sent at \$1,) and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Monday Morning, May 20, 1861.

The general opening of river and canal navigation, since our last report, has largely increased the receipts of breadstuffs at the head of tide-water at Albany. The receipts at that point, for the first and second week in May, were 639,128 bushels of wheat, against only 177,378 for the same time last year—an increase of 461,750 bushels. The receipts of flour however were 11,437 bbls. this year against 38,753 bbls. last year—a decrease of 26,316 bbls. equivalent to 131,580 bushels of wheat, but still leaving an excess of 350,000 bushels this year. Though the canals opened five days later last year, and half a month later than in 1859, yet the receipts by water, and by the Erie and Central railroads, have far exceeded those of any previous season for many years past. Of Barley the receipts show a falling off from last month of 35,000 bushels, but the season for the sale of barley is drawing to a close. But notwithstanding the increased receipts of Breadstuffs, the sales have been less than during the previous month. The difficulty of selling foreign exchange, that is bills drawn against produce shipped abroad, which was noted at the close of our last report, has continued to operate against transactions here. The rate of exchange has been so low, as to continue the bringing over of specie, and foreign gold is constantly arriving. This is not an unhealthy indication in one respect. Our exports of produce are usually paid for by foreign goods imported. Now we are importing and using less, and by so much adding to our wealth by economizing in consumption. Lack of ship room, and consequent high freights, also hindered the exports of our produce. Recently, the blockade of southern ports has stopped the employment of vessels in the Southern trade, increasing the number here available for foreign trade, and causing a decline in freight. This has, within the past few days, decidedly enlivened the transaction in corn and wheat for export. But the demands have been promptly met by the incoming receipts, and there is still a decline in prices, especially for common and medium qualities of flour and grain. An unusually large lot of unsound wheat and corn is

coming forward, which is being sold very low and at irregular prices; it is so poor and rotten, that none but distillers buy it—and generally on their own terms. Some of the better lots of grain, when not too damp, or otherwise injured, are taken for export in steam vessels with a view of getting them into foreign markets, before they become "heated." As shown by the tables below, the total shipments of Breadstuffs from this port, since January 1, have been far ahead of the same period last year, and, indeed, unprecedentedly large, at least as far as regards Flour, Wheat, and Corn. The value of the increase in the exports of these three articles, as compared with Jan. 1, to May 15, last year, can be safely estimated, at *ten millions of dollars*, which is a vast addition to the volume of our export trade, for a period of only four and a half months—equivalent to a gain of nearly two and a half millions of dollars every month of the current year. The transactions in Cotton have been light, owing to the high prices claimed by holders, in view of the blockade of the ports in the states, south of Maryland, and the consequent diminution of supplies here. The Rice market has been very active and a large advance has been established. Stocks in first hands are now reduced to a very small amount, and coastwise supplies can not be looked for at present. The Provision trade has not been active; the demand has been mainly for home use, and to fill government orders; and prices of pork and lard have declined. As the demand for Hay from the South has ceased, and shipments thither can not be made during the blockade, supplies in this market are increased, and prices have fallen. The local consumption is the main reliance of sellers. The movements in other branches of business have been unusually limited. Considerable changes in the price of some market commodities, as Potatoes, eggs, poultry etc., will be noticed in the table of current prices, below. Early vegetables, are high and scarce, owing to the cutting off of the usual large supplies from Southern Ports.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 days this month	334,000	1,122,000	755,000	19,850	93,000	317,000
26 days last month	236,500	331,500	355,000	6,800	128,000	146,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
23 days this mon.	424,000	2,399,000	1,555,000	73,450	84,750	
26 days last mon.	467,000	2,479,000	1,660,000	39,000	95,000	

Exports from New-York, January 1, to May 15.

	1860.	1861.
Wheat Flour, bbls.	251,511	843,585
Rye Flour, bbls.	3,858	4,665
Corn Meal, bbls.	35,386	32,285
Wheat, bushels.	424,100	4,415,825
Corn, bushels.	299,701	3,651,053
Rye, bushels.	100	46,081
Barley, bushels.	200	1,000
Oats, bushels.	765	43,024

Receipts of Breadstuffs at Chicago, Jan. 1. to May 7.

	1859.	1860.	1861.
Flour, bbls.	117,623	150,559	378,940
Wheat, bushels.	685,872	1,100,916	2,143,459
Corn, bushels.	938,762	3,888,749	3,664,849
Oats, bushels.	165,528	419,140	191,065
Rye, bushels.	16,114	149,310	106,045
Barley, bushels.	92,377	100,571	276,812

The receipts at the head of tide-water, Hudson River, of the principle articles of Produce, from the opening of the Canals to, and including the 15th of May, have been as follows:

	1859.	1860.	1861.
Canal open.	April 15.	April 25.	May 1.
Flour, bbls.	40,469	43,893	31,490
Wheat, bushels.	82,918	199,173	726,361
Corn, bushels.	197,566	403,498	332,828
Barley, bushels.	77,800	41,052	38,047
Oats, bushels.	469,400	380,053	334,057
Rye, bushel.	29,479	16760	1,251

CURRENT WHOLESALE PRICES.

	April 19.	May 20.
Flour—Super to Extra State	\$5 05 @ 5 40	\$5 00 @ 5 35
Superfine Western.	5 05 @ 5 15	4 95 @ 5 10
Extra Western.	5 20 @ 5 25	5 15 @ 5 20
Fancy to Extra Genesee.	5 45 @ 5 50	5 40 @ 5 50
Super to Extra Southern.	5 30 @ 5 35	5 30 @ 5 40
State Flour—Fine and Super.	5 20 @ 5 25	5 15 @ 5 20
CORN MEAL.	2 80 @ 3 15	2 85 @ 3 25
WHEAT—Canada White.	1 45 @ 1 60	1 38 @ 1 57 1/2
Western White.	1 42 1/2 @ 1 65	1 35 @ 1 75
Southern White.	1 47 1/2 @ 1 68	1 45 @ 1 78
All kinds of Red.	1 20 @ 1 40	1 14 @ 1 32
Oats—Yellow.	65 @ 73	58 @ 62
White.	65 @ 73	58 @ 62
Mixed.	61 @ 68	53 @ 55 1/2
OATS—Western.	34 @ 35	31 1/2 @ 32 1/2
State.	35 @ 36	32 @ 33 1/2
Southern.	30 @ 33	29 @ 31
RYE.	68 @ 69	66 @ 67 1/2
BARLEY.	60 @ 65	55 @ 60
HAY, in bales, per 100 lbs.	70 @ 1 00	55 @ 90
COTTON—Middlings, per lb.	12 1/2 @ 13	13 1/2 @ 14 1/2
Rice, per 100 lbs.	3 50 @ 5 00	3 50 @ 6 50
Hops, crop of 1860, per lb.	15 @ 25	14 @ 24
FEATHERS, Live Geese, p. lb.	37 @ 43	None selling.
SEED—Clover, per lb.	7 1/2 @ 8 1/2	None selling.
Timothy, per bushel.	3 00 @ 3 50	None selling.
STARCH—Brown, p. lb.	4 @ 6 1/2	4 @ 6 1/2
MOLASSES, New-Orleans, p. gal.	32 @ 38	30 @ 35
COFFEE, Rio, per lb.	11 @ 14	10 1/2 @ 13 1/2
Tobacco—Kentucky, &c, p. lb.	2 1/2 @ 13	3 @ 15
Seed Leaf, per lb.	4 @ 25	4 @ 25
Wool—Domestic fleece, p. lb.	23 @ 53	28 @ 53
Domestic, pulled, per lb.	20 @ 40	25 @ 38
TALLOW, per lb.	9 1/2 @ 9 1/2	9 @ 9 1/2
OIL CASE, per tun.	60 00 @ 36 00	Nominal.
PORK—New Mess, per bbl.	17 50 @ 17 75	17 25 @
Prime, new, per bbl.	13 00 @	13 00 @
BEEF—Recapped mess.	8 75 @ 10 25	10 00 @ 11 00
LARD, in bbls, per lb.	0 1/2 @ 10 1/2	9 @ 9 1/2
BUTTER—Western, per lb.	10 @ 15	16 @ 15
State, per lb.	6 @ 10	13 @ 17
EGGS—Fresh, per dozen.	13 1/2 @ 14	8 @ 9 1/2
POULTRY—Fowls, per lb.	14 @ 16	12 @ 14
Chickens, Spring, per pair.		75 @ 1 00
Turkeys, per lb.	12 @ 16	12 @ 14
Wild Pigeons, per doz.	50 @ 65	14 @ 25
APPLES, Prime, per bbl.	1 50 @ 1 75	20 @ 25
Medium, do.	1 25 @ 1 50	15 @ 17 1/2
Extra Dessert Apples.	2 00 @ 2 75	1 50 @ 3 00
Dried Apples, per lb.	2 @ 3	2 @ 3
Dried Peaches, per lb., peeled.	8 @ 13	10 @ 12
Dried Cherries, pitted, per lb.	12 @ 13	10 @ 11
Dried Raspberries, per lb.	12 @ 13	10 @ 11
POTATOES—Merced, per bbl.	1 75 @ 2 00	1 87 @ 2 00
Notas, do, per bbl.	1 62 @ 2 00	1 75 @ 2 00
Drykman and Buckeye, p. bbl.	1 75 @ 2 00	1 87 @ 2 00
Peach Blows, do, bbl.	1 75 @ 2 00	2 00 @ 2 25
Bermuda, new, per bush.		4 00 @ 4 50
ONIONS, Red, per bbl.	1 75 @	2 25 @ 2 50
TURNEPS, per bbl.	50 @	50 @ 63
TOMATOES, Bermuda, p. 4-q.		1 25 @ 2 50
ASPARAGUS, per doz. bunches.		2 00 @
HUBBARD, per 100 bunches.		2 00 @

N. Y. Live Stock Markets.—THE CATTLE

MARKETS have been well supplied with beefs during the past month, the total receipts being 16,440, or a weekly average of 4,110. The increased demand for city consumption, while so many soldiers are quartered or passing through here, with considerable purchases by country graziers, and especially the demand for army supplies at Washington, through government agents, have conspired to advance prices about 1 c. per lb. during the month. Beef Cattle now range at 9c. @ 9 1/2c. per lb., estimated dressed weight of the four quarters, for prime grades; 8c. @ 8 1/2c. for fair to good; 7 1/2c. @ 7 3/4c. for poor; with an average of 8 1/2c. for all sold. Appearances indicate good markets for June.

VEAL CALVES.—Receipts have been very abundant during the past month, amounting to 4,064, or 1,016 per week. There has been a glut each market day, and good calves have sold very low. It is difficult to give a regular quotation, as, after the first sales each weekly market day, prices fall, and closing rates are just what buyers choose to pay—frequently less than half what they brought in the morning. A medium quotation for prime veal calves is 5c. @ 5 1/2c. per lb, live weight; fair calves 4c., and thin animals 3c. @ 3 1/2c. Young calves of a few days old, called "bobs," sell for \$1 @ \$2 per head. All of this class, and many of the good ones, should be reared upon the farm, as stock of all kinds will doubtless be in better demand for a year or more to come, and at improved rates.

SHEEP AND LAMBS.—Receipts about as last month, or an average of 6,352 per week. The demand has increased, and prices advanced 1/2c. @ 1/2c. per lb, live weight, and all the stock was early sold at the last market, leaving a large want unsupplied. A few are taken from this city to feed the army, while large numbers which would otherwise

come here, are turned to Washington. All the sheep are now shorn, and prices ruled: May 15th, at 5c. @ 5 1/2c. per lb, live weight for fat stock, and 4 1/2c. for thin. Good lambs are in demand at \$1 @ \$5 per head—poor ones sell slowly.

LIVE HOGS.—Receipts were in keeping with the demand during the first half of the month, but for two weeks past we have had about 19,000, which is largely in excess of present wants, the weather being too warm to pack. At the last market prices were 4 1/2c. @ 5 1/2c. per lb, live weight, for corn fed hogs, and 4c. @ 4 1/2c. for distillery fed, or nearly 1/2c. lower than one month ago. Fully 3,000 remained unsold. The weekly receipts for 4 weeks average 8,374.

The Weather has been cold and wet of late, making the season unusually backward. Many farmers have not finished planting corn, rightly concluding that seed is as well off out of ground, as in, until the soil is warm enough for it to vegetate quickly. There have been several hard frosts, and, in some localities, fruit is doubtless injured. The very cold weather in February, suddenly following a mild term, injured the fruit buds, so that a light bloom was the result.—OUR DAILY WEATHER NOTES, condensed, read thus: April 20, to 23, clear, fine, warm—24, hot, showers at night, (Stuyvesant Pear Tree, of this city, now near 200 years old, beginning to bloom, which is the same date it opened last season)—25 to 27, clear, fine, growing weather—28, cloudy, with rain—29, 30, clear, cold—May, 1, showers, cold, windy—2, clear, cold, ice formed—3, cold, mercury 30°, and ground frozen, cherry, peach, plum and pear blooms probably injured, rained P. M.—4, cold rain. A. M.; clear P. M.—5, hard frost, rain at night—6, heavy, soaking rain—7, cool, rain squalls—8, 9, fine but cool—10, clear A. M.; cloudy P. M.; rain at night—11, cloudy—12, clear, warm—13, rain—14, cloudy A. M.; clear and warm P. M.—15, 16, clear and fine—17, 18, cool, but pleasant.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit.)—r indicates rain, s, snow.]

APRIL.

1.....34s	7.....40	13.....51r	19.....49	25.....53
2.....32	8.....40	14.....49	20.....41	26.....52
3.....33	9.....36	15.....46	21.....45	27.....50
4.....32	10.....34	16.....40r	22.....47	28.....54r
5.....38	11.....37	17.....35s	23.....51	29.....52
6.....41	12.....40	18.....38r	24.....51r	30.....54
Average.....43				

MAY.

1.....47r	4.....38r	7.....50	10.....47r	13.....55r
2.....34	5.....39	8.....54	11.....46	14.....54r
3.....36r	6.....44r	9.....47	12.....50	15.....55

Our Exhibition Tables.

As announced some months since, when taking possession of our new office, we have conveniently arranged tables for the exhibition of agricultural and horticultural novelties, specimens of flowers, fruits, etc. These have been a very attractive feature of the establishment, and have been visited by thousands. Our location being on one of the great thoroughfares in this City, no better point can be found for such purposes, and we invite all who choose to avail themselves of the privilege, to do so freely. Visitors will also usually find enough to repay them for a call. The Winter and early Spring months do not afford much in the way of flowers, but as the season advances, there will be a good show of fruit and flowers, from nurseries, private individuals, and from the grounds of the proprietor. Since the last list published, the following articles, not noticed before, have been received.

California Wheat, exhibited by Alexander W. Mabee, Rockland Co., N. Y. Union Corn—A curious specimen of two ears of pop-corn united in one; Wm. B. Westcott, New-York City. Chili Potatoes; E. B. Spooner, Kings Co., N. Y., and Wm. Bigelow, Hartford Co., Conn. Prince Albert and Peach Blow Potatoes, fine specimens; G. Williams, Essex Co., N. J. Long White French Turnip, by the same. Northern Spy, Baldwin, English Russet, Rambo, and Talman Sweeting apples; George A. Wilson, Madison Co., N. Y. Forwaller Apples; A. Lydecker, Englewood, N. J. Alga Squash, imported from Alga Bay, West Coast of Africa; W. S. Carpenter New-York. Manzannetta stems and flowers; Philip Reiz Corvallis, Oregon. Variegated plants, Caladiums and Coleus, also fine Lycopodium; S. B. Parsons & Co., Queens Co., N. Y. Century Plant (*Agave Americana*), about 30 years old, noticed on page 181; D. Bidwell, New-Orleans, La. Brazilian Ivory Nuts; Wm. B. Westcott, New-York City. A pair of fine Grey Eagles, presented to the proprietor by P. T. Barnum. Star Mole, a mischievous little animal, with a singular star shaped formation at the end of the nose; C. E. Wheeler, Essex Co., N. J. Hand Glasses for protecting garden plants; W. V. Bloor, Kings Co., N. Y. Hog-Catcher, a simple and effective implement for taking and holding swine; Jacob Sherwood, Westchester Co., N. Y.



Fig. 1—"GIANT WHEAT."

The above engraving, prepared for our March number, is an exact copy of one appearing in the English journals. Almost incredible accounts of productiveness of this Wheat were given, and we sent to our English correspondent to procure a quantity and forward for our distribution. Two bushels were obtained at a fabulous price, and we have been distributing it in small parcels for experiment. We should have sent the whole of it away, had we known just how many parcels would be called for, and how much could be put in each. The little now remaining we shall distribute, with another variety described below, as premiums. We do not credit the half that is said of this wheat, though the accounts are given in a leading agricultural journal, published where the wheat is grown, and where they might be easily exposed, if unreliable. But if this wheat prove a fourth part as valuable here as it is represented to be in England, it will be decidedly worthy of cultivation. The experiment will cost but little, and is worth a trial. If successful, those who raise the first seed in quantity will be ahead in this market.



Fig. 2—"HALLETT'S PEDIGREE NURSERY WHEAT."

We present in Fig. 2 a fac simile of an engraving of another variety of wheat, which was brought before the public in England, last Autumn. This engraving was placed beside a glass case of the heads, at the Show of the Smithfield Club, last year, and the public invited to compare them, and no one disputed the accuracy of the representation. Mr. Hallett states that a single kernel planted, produced 39 heads, containing 2145 kernels. As soon as we saw the statements concerning this Wheat, we at once sent for a quantity of it to add to our free Seed Distribution, notwithstanding the enormous price asked for it, but our Correspondent could only get a small lot. There was not enough to offer in the general distribution, and it was too costly for that purpose. We shall, therefore, reserve a little for our own experiment, and offer the rest that we have as a special premium, as named below. We can only say of this, as we have said of the "Giant Wheat," above, that the claims put forth for it are too large to fully credit; though it would seem to be of unusual value, and it will cost little to test it here. Mr. Hallett claims to have "bred up" this wheat from the size shown in Fig. 3, by careful selections from year to year. Those who obtain the specimens of this, or the giant wheat, or both, will do well to plant the kernels separately, in drills, in a good soil, to the end that as large a yield as possible may be secured, should these varieties prove worthy of future cultivation. Plant or sow at the usual time of putting in Winter wheat.



Fig. 3.—AN ORIGINAL HEAD.

THE WHEAT PREMIUM.

To any one who will now procure and forward a new subscriber to the *Agriculturist*, at \$1 a year, we will send (post-paid,) a parcel of each of the above varieties of wheat—one parcel to contain, say about 400 kernels of the "GIANT WHEAT," and the other about 600 kernels of HALLETT'S PEDIGREE NEW WHEAT. This amount of seed (1000 kernels,) will produce a large supply for another year.

TURNIP SEED PREMIUM.

As this is the season for procuring turnip seed, and it is important to raise as many as possible this year, we offer a Special Premium of some excellent turnip seed, which will be particularly valuable to those who can not get a supply of good seed more conveniently or cheaper.

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year, we will present a QUARTER OF A POUND of the BEST TURNIP SEED. The seed will be forwarded free of charge, (post paid). This amount of seed will suffice to plant from one-fourth to one half of an acre, according to the care exercised in sowing.

For other Premiums, see last page of this number; also page 186.

TWO CONVENIENT PAPER FILES.

We have now procured a supply of two excellent paper files, made expressly to fit the *Agriculturist*, for the convenience of our subscribers who desire to preserve the successive numbers of this journal in regular order and ready for reference.

The first, and most perfect, is the Portfolio Cover, resembling a neat book cover, provided with cord, needle, and India rubber spring, by means of which the numbers are quickly fastened in, almost as firmly as if full bound. The covers are stamped, and have the name of the paper printed on. When one volume is complete, the numbers can be stitched together in a volume, and the cover used

for the next volume. It is the perfection of a newspaper file, combining the advantages of an adjustable file, and a bound cover. Prices, 60 cents, 75 cents, and \$1, according to the material, style, etc. If sent by mail, 21 cents extra for postage.

The second, is a convenient cheap wood file, which elaps the papers at the back, holding them about as firmly as if stitched together. This is the most convenient and perfect newspaper file, for its price, that has yet been invented. We have them made just to fit a volume of this journal. Price 15 cents. If sent by mail, 12 cents extra for postage.

BAROMETER PREMIUM EXTRA.

The Barometer is very useful for the Haying and Harvesting season, to assist in foretelling the approach of storms. The one offered in our Standing Premiums, (page 186,) will be given for this month, (June,) and for this month only, on the same terms as the Large Dictionary, viz: for 10 new subscribers now sent in at \$1 each—good money. The instrument is well packed for being carried anywhere with entire safety by Express, or otherwise

Close of the Seed Distribution.

Our general distribution of seeds for the present year is about closed—save a few kinds offered as special premiums. During most of the time since the beginning of the year, we have had from five to ten persons employed in putting up and mailing seeds to scores of thousands of subscribers residing all over the country. At the outset, we provided a supply of 77 different varieties, as far as possible in the proportions we judged they would be called for. Some kinds were rapidly exhausted, whilst others have been little asked for. Owing to the bad season last year, and the scarcity of good seeds, the expense has been greater than expected, and the parcels necessarily smaller than we could have desired.

We trust all the seeds sent out will grow and give satisfaction, pleasure, and ultimately profit to the recipients; though among so many, there must doubtless be some failures, owing to lack of proper soil or culture. The cold wet weather of May has probably rotted some of them in the ground. So also, we can hardly venture the hope that there have been no mistakes in the selection and putting up of the exact kinds asked for, though no effort or care has been spared to avoid errors from this cause. The mail has probably miscarried an occasional parcel, but we have heard very few complaints of any kind.

The plans for the future are not yet fully matured. We are growing a larger variety and in greater quantity than hitherto; and the great reduction in postage will render next year's distribution far more important and valuable.

More Agricultural Humbug at Washington.

We exceedingly regret to learn that the present Administration at Washington has commissioned a wholly incompetent person to proceed to Europe to study various plants, purchase seeds, etc. The thousands of dollars expense involved will be a small matter, in comparison with the unreliable information that will be sent forth, and the loss entailed upon those who receive these seeds, and expend their time in cultivating them.

If such incompetent men are to buy seeds for the Government, we advise our readers not to be at the trouble and expense of cultivating or even trying seeds received from Washington hereafter. Our new Administration must make a better beginning in the appointment of agents, if it would redeem the Agricultural Department at Washington from the low estimation into which it has sunk for several years past.—We shall have more to say on the subject.

SPECIAL EDITION For the PACIFIC COAST.

An Extra Early Edition of the *American Agriculturist*, for subscribers in California, Oregon, Washington Territory, and the Sandwich Islands, is regularly issued on the evening of the 20th of each month, to go by the mail Steamer leaving N. Y., on the morning of the 21st.

Extra Time on Extra Premiums To Distant Subscribers.

The Special Premiums on page 192, and the Barometer Premium, page 188, close July 1st; but sufficient extra time will be allowed to subscribers on the Pacific Coast, and at other distant points, to send in for these premiums, after they receive this June number.

Postage Reduced on Seeds and Cuttings.

We are happy to announce to our subscribers, that the postage on all kinds of seeds, and on cuttings, or cions, is now reduced from 6 cents, to 1 cent per ounce, when sent less than 1500 miles, and from 20 cents, to only 2 cents per ounce on all distances over 1500 miles. This will greatly facilitate our sending seeds to distant subscribers hereafter.

Beyond all doubt or controversy, the circulation of the *American Agriculturist* to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at any and all times to substantiate this statement.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. T. R. M. S.—(invariably cash before insertion):

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Fifty cents per line of space for each insertion.
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ORANGE JUDD, Esq. Editor of American Agriculturist.
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BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post paid*, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may well be procured by any one making up a library. Those we esteem specially valuable, are marked with a *.]

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EXTRACT FROM A BUSINESS LETTER.

JAMESTOWN, Chautauque Co., N. Y., April 12, 1861. AMERICAN HYDROPULT CO., 151 Nassau-st., N. Y. At what price will you sell the Hydropults per dozen. We wish to form a fire company of 30 to 50 members to use them. From good effects witnessed in this vicinity we believe they would be very efficient. A few weeks since in this town a fire was discovered burning in a store between the plastering and siding, and near the top of the building, where it could not be reached with water thrown from buckets. Fortunately one of your Hydropults was brought, and the flames were soon extinguished, and probably from fifty to one hundred thousand dollars worth of property was saved. Ten nights after this a large fire occurred here, destroying about \$200,000 worth of property, during which a block of buildings on the opposite corner was saved by the Hydropult. On another adjoining corner, fire caught under the eaves of the building, but engines, ladders, and Hydropults were busy elsewhere, and the entire block went down. In two other cases since, the instrument rendered great service in protecting the adjoining property; in one it saved the building that first took fire. For further particulars of these incidents refer to prominent citizens of this place. L. P. JUDSON.

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Contents for June, 1861.

Aloe—American, on Exhibition	Illustrated..181
Apples—Reports on for different Localities.—Valuable Summary	177
Aquarium—Salt Water—Management of.....	Illustrated..181
Baby—The Sin that Killed it.....	183
Bag—How to Tie	171
Bees—Apiary in June.....	164
Boy's and Girls' Department—Editor with his Young Readers—About the Picture—A Noble Boy—About Names—Days of the Week—Type Setting—Amusing Mistakes—The "Star-Spangled Banner" Words and Music. The Cunning Will—Problems. Illustrated.....	184-5
Cabbage Tree—Wonderful.....	179
Cabbages—Hints on Raising.....	179
CALENDAR OF OPERATIONS FOR THE MONTH.....	162
Calves—Feed for Weaned.....	173
Cattle—Graining Young—Root Feeding.....	173
Cattle—Horn Ail not a Disease.....	173
Climbing Plants—Adorning Rough Places.....	180
Clover—Curing—An Old Notion.....	171
Clover Seed—Saving.....	171
Coffee—Hints on Choosing and Preparing.....	182
Cooking Directions, etc.—Mutton—Hams—Corned Beef Hash—Browned Hash—Cherry Pudding—Corn Bread—Dough Cake—Dutch Pancake—Measure Loaf Cake—Lard Candles.....	183
Corn—Sow for Feeding.....	170
Crowbar—Use the.....	175
Draining—How to Drain.....	6 Illustrations..169
Draining—Mole Plow.....	168
Egg Plants—Raising and Cooking.....	180
Exhibition Tables.....	187
Farm Work in June.....	162
File for Papers—New and Convenient.....	188
Flax Competing with Cotton.....	170
Flower Garden and Lawn in June.....	163
Flower—God seen in the.....	175
Flowers—Passion Flower.....	Illustrated..180
Garden—Kitchen and Fruit in June.....	163
Green and Hot Houses in June.....	164
Hedges—Osage Orange.....	177
Home Questions for the Household.....	182
House—Rustic Summer.....	Illustrated..172
Humbug—Agricultural at Washington.....	189
Illinois Lands—Answer to Inquiries.....	172
Insects—Wheat Midge—Disappearance of.....	171
June—Suggestions—Dairying and Pastures.....	Illustrated..161
Latin Quotations Explained.....	186
Literature—Poisonous Stuff.....	183
Manure—Bone—Home-made.....	168
Manure—Dead Animals for.....	168
Manuring with the Hoe.....	172
Market Review—Weather Notes, etc.....	187
Massachusetts Agricultural Reports for 1860.....	165
Millet for Fodder.....	170
Moles—Do they Eat Peas.....	173
Mowers and Reapers.....	172
Oil Cloths—How to Choose and Preserve.....	182
Orchard and Nursery in June.....	162
Plowing by Steam.....	174
Plow—How to Scour.....	172
Pomological Societies—Defence of.....	175
Potato Rot—Three Proposed "Sure Remedies".....	168
Raspberry and Blackberry Shoots.....	180
Seed—Sowing Soaked.....	171
Sleep—How much is needed.....	183
Strawberry Beds—Slugs in.....	179
Sugar Making—Important Discovery.....	174
Swine—Cheap Feed for.....	173
Swine—To Free from Vermin.....	173
Thin the Plants.....	179
Topiary Work in Gardening.....	5 Illustrations..176
Trees and Vines—Dry Rot in Living.....	179
Trees—Evergreens—Desirable Sorts.....	178
Trees—Evergreens—How to Transplant.....	178
Trees—Evergreen—Sowing Seeds.....	175
Trees—Pine Lumbering—Lesson from History.....	174
War and the Farmers—Important Suggestions.....	167
Weak Plants—Replacing.....	180
Wheat and Chess—Experiment Proposed.....	171
Wheat Fields—Weed the.....	171
Wheat—Premium, etc.....	3 Illustrations..188
Wheat—Transplanting.....	171
INDEX TO "BASKET" ITEMS.	
Apples for Minnesota.....	166
Books for Farmers.....	166
Cattle—Lice on.....	166
Churning—Novel Mode of.....	166
Corn Planter—Cheap.....	165
Corn—Remedy for Birds—Selecting Seed.....	165
Corn Stalks for Milch Cows.....	165
Cotton in Utah Territory.....	165
Currant—The Cherry.....	166
Exhibition—N. Y. State Agricultural Society.....	165
Flowers—The Green Rose.....	166
Grapes—Hardiness of—The Delaware—Stakes for.....	166
Grass for Prairies—Red Top—When to cut.....	166
Hogs—Chester County.....	166
Horse—A Large.....	166
Horses—Administering Medicine to—Ring Bone.....	166
Horses and Cattle—Warts on.....	166
House Plan—Mr. Bishop's Premium awarded.....	165
Insects—Onion Margot Preventive.....	166
Letters for "John Smith".....	165
Manure—Cider Pomace—Gas Liquor.....	165
Manure—Tan Bark for—Plaster, Amount of per Acre.....	166
Milking Machines.....	166
Nursery Catalogues—Bridgman's.....	166
Oats on a Wheat Head.....	165
Potatoes Mixing in the Hill.....	166
Poultry—Cholera in Hens.....	166
Quinces in March.....	166
Roofs—Composition for—Roman Cement—Leaky.....	166
Sheep and Dogs in Massachusetts.....	166
Sheep—Feeding in Winter.....	166
Strawberries in Hills—Great Yield.....	166
Sugar Cane—Chinese—Forwarding Growth of.....	165
Thistles—Canada.....	166
Trees—Plum—Beach or Sand for Stocks.....	166
Whale Oil Soap.....	166

Publisher's Notices.

[For other Business Items, see page 189—For two valuable Seed Premiums, see page 188—For Standing Premiums, see page 186.]

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FOR THE

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July.

"And soon the jocund dale and echoing hill
Resound with merriment. The simple jest,
The village tale of scandal, and the taunts
Of rude unpolished wit, raise sudden bursts
Of laughter from beneath the spreading oak,
Where, thrown at ease, and sheltered from the sun,
The plain repast and wholesome beverage cheer
Their spirits. Light as air they spring, renewed,
To social labor: soon the ponderous wain
Moves slowly onward with its fragrant load,
And swells the barn capacious; or, to crown
Their toil, large tapering pyramids they build,
The magazines of plenty, to insure
From winter's want the flocks and lowing herds."

We are again at the zenith of the year, when the glory and blossoming of Summer begin to pass into fruit. Already we are gathering the small fruits, and dishes piled with berries, and garnished with sugar and cream, grace the farmer's repast. The cherries, in those sections of the country where they have not been winter killed, stand thick among the green leaves, and the apples and pears are rapidly pushing on toward maturity. The meadow is now in its glory, and all the varieties of grasses are shaking their dewy plumes in the morning breeze. Much of the interest of the northern farm at this season, clusters around the hay field. It has its poetry as well as its philosophy, its sentiment, as well as its dull realities.

There is hardly a more beautiful sight among all the peaceful scenes of rural life, than the meadow at mowing time. Grass is at all times grateful to the eye, and the smooth shaven lawn, with nothing but evenness and monotonous green to commend it, is a perpetual feast. We can find contrasts enough in other things. But the verdure of the meadow has a thousand varying shades, as the grasses come into bloom in mid-summer. Not only are there many varieties of grasses, but each variety gives a succession of hues, as it passes from the blade into the season of ripeness. We have different shades of green, and then as the tassels and plumes come out, different shades of purple, blue, pink, and crimson, blending with the ground work of verdure beneath. Then, to vary the scene, we have these colors modified by the dew and the rain, by cloud and sunshine, by wind and calm. A gentle breeze sweeping over the tall grass, gives one the impression of the waves of the sea. We never thrust a scythe into a full grown meadow, without a sigh that so much of beauty has to be sacrificed to the necessities of man and beast.

But the hay field is pleasing to the looker on, if not to the hay maker, after all its nodding plumes and flowers have gone down before the scythe. We love to see the boys tossing the withered herbage, the rakers gathering up the long windrows, the hay in cocks and covered with snowy caps, looking in the distance like a tented field, the hay cart with its enormous bulk drawn into the barn, the stacks suggestive of barns running over full with fodder, the farmer's nooning—the whole laboring group reclined upon the fragrant hay, the mirthful boys, full of dinner and practical jokes.

Nor is the eye alone pleased with the hay field. No flower border sends up more grateful odors, than the blooming meadow on a Summer morning. It pays for early rising, to inhale the fragrance, as well as to catch the sparkle of the first sunbeams, as they flash from the dew drops. And then, when all the grasses are laid low in death, the perfume that comes up from the crushed blossoms surpasses all that they exhaled while living. "New mown hay" gives a name to one of the most exquisite products of the perfumer, and the Broadway belle is redolent of one of the most common odors of the farm. This fragrance is most perceptible at evening, as the dew begins to fall, and moonlight rides in July are particularly delightful to those who have the leisure to enjoy them.

Sweet sounds are also the charm of the hay field, and cheer the laborer at his task. You will always hear the robin from the adjoining orchard or fence, and the Bobolink pours forth his ecstasy from every weed and shrub that overtops the surrounding grass. The meadow lark and the quail both build their nests among the grass, and their notes are the constant companion of the mower. Then, the murmur of

bees among the clover heads, comes up as a subdued undertone, to the varied music of the feathered tribes.

And who that has been bred in a northern home and studied the New-England Primer, with its familiar illustration of old Time and his scythe, has not indulged in a bit of sentiment, as he thrust his glittering steel into the grass. What slaughter of living things that the sun has been nurturing into strength and beauty all Summer long! To-day a living host, glorious in their wealth of blossoms, and to-morrow a mass of withered herbage! He thinks involuntarily of the Great Reaper, and the human harvest that Time is always gathering.

To come down from the realms of poetry and sentiment, the hay field is a very matter of fact sort of place, full of sweat and hard work. The scythe compels one to labor in a constrained posture, disciplines new muscles, and is justly regarded as the severest labor of the farm. As a gymnastic exercise, mowing is excellent, and if not too much prolonged, it gives strength to the muscles of the shoulders, the loins, and hips. The fact that one is always lame after the first day of mowing, shows that unused muscles have been taxed. The great danger at this season is of attempting too much. Labor is generally from fifty to a hundred per cent higher than at other seasons, but it is very much better to employ it at any price, than to break down the system by overwork. A strained muscle will often lay a man up for months. If the labor is more severe than usual, more time must be taken for rest. It is folly to work fifteen or sixteen hours daily, as some farmers do. We doubt if any thing is gained to the employer, in the whole season, by more than ten hours of steady toil. Particular attention should be paid to food and drink. We want good nourishing food, plenty of fruits and vegetables and milk, to break up the monotony of salt junk and potatoes. Some eschew ice water in the hay field. If one is accustomed to it from the beginning of the season, there is little danger in its use. While we approve of good cheer, coffee, tea, syrups, ginger beer, and the wholesome drinks that the good housewife knows so well how to prepare, we discard all intoxicating drinks.

Hay making is an art, and it requires a good deal of experience to know just when to arrest the process, so that the dried grass shall retain its virtues. It is agreed on all hands that it should be cut just as it is passing out of blossom. Later than this, the gum and saccharine matter pass over into woody fiber, and the hay is not so highly relished, and is not so nutritious. In the beginning of the season, when the grasses are full of juice, there is danger of curing too little, so that the hay heats in the mow. In the latter part, there is danger of drying too much. The best hay is made mainly in the cock, and now that we have hay caps so generally distrib-

uted, this may be safely done. Heavy grass, when it has had one day's sun, may be kept in cock two or three days, and improve by the process. Hay is best secured in the barn in large mows. We trust the day is not distant, when farmers will have barn room enough for all their fodder, as well as for their cattle. In the barn the hay remains undisturbed until it is fed out, and retains all its sweetness. In the stack, there is a loss in the quality of the hay, and still greater loss in feeding.

Calendar of Operations for July, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 33° to 45°; but will be equally applicable to points further North and South, by allowing for latitude.]

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm*, or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

It is of great importance that corn, potatoes, and other hood crops be put in the best possible condition before haying and harvesting—the main work of this month. When the grass and grain claim attention, all other operations are put aside, and if the weeds have not been subdued, and the soil left properly loosened, corn must suffer. An additional hoeing early this month, may make five or ten bushels per acre difference in the yield.

It is poor economy to attempt the severe labors of the season with insufficient working force. Overworking during the oppressive heat of Summer is even more injurious than at other times. There may be scarcity of help in some sections, owing to the large numbers engaged in the war, but the absence of men should be supplied, as far as may be, by using labor-saving implements.

Barns and Sheds—If not in order to receive the hay and grain, no time should be lost in repairing them. Where there are not buildings enough to receive the crop, erect temporary coverings for stacks.

Buckwheat—A good crop will add much to the supplies for the house and the feed bin, and will command a ready market, if not wanted for home use. Sow, *ff*, *m*. Read article on page 203.

Butter—To produce a good article at this season, a cool well ventilated dairy room is indispensable. Exclude flies from the premises with frames covered with millinet, placed in the doors and windows. Observe scrupulous neatness in every operation. The tub or barrel for the reception of sour milk should be kept at a distance from the dairy, and convenient to the pig pen. The effluvia from a fermenting swill tub will injure the flavor of butter.

Cabbages for the latest crops may be planted, *ff*. Set them between rows of early potatoes, which are soon to be gathered. Manure the ground well. A good dressing of ashes and salt is often useful.

Cheese can be made successfully where there are not necessary conveniences for making good butter in hot weather. Read articles on page 206.

Draining—If there be leisure between haying and oat harvest, employ it in improving open ditches which may need it. The work is better done during the dry weather of Summer. Lay tile or other drains where needed most. This improvement may be introduced gradually. Read the articles on the subject now in course of publication.

Fences—Keep in good repair, particularly around fields where young cattle are confined, and adjoining corn and grain lots which tempt animals to break from the pasture.

Grass and Clover Seed—Select the best growth of clover, timothy, etc., and leave it to ripen for seed. Choose a piece as free from weeds as possible,

and pull out foul stuff before gathering the seed.

Haying will commence in this latitude early in July. Commence with clover, if not already secured, and cut as the different fields are just passing from bloom. Put up the hay in small cocks before it is entirely dried, and cover them with hay caps. This should be done early in the afternoon if practicable, while the hay is heated by the sun; much of the heat will be retained, and greatly assist in drying the hay. Banish the whiskey jug from the field, and allow ample noon rests. If hay must be stacked, lay a good platform of rails or slabs to keep it from the ground. In stacking let the successive loads be thrown on from different sides, to prevent uneven settling and leaning of the stack.

Hedge-rows and bushes in pastures or other fields, if cut repeatedly during hot weather, may be finally destroyed. Follow it up in July.

Hoeing should be completed before haying is commenced; but an occasional day of poor hay weather may be improved by going through parts of the cornfield where weeds are encroaching. If severe drouth should occur, it would pay to use the horse-hoe or cultivator to loosen the surface of the ground. Deep tillage should be avoided after the corn roots have extended across the rows.

Ladders—Much time and trouble will be saved by having convenient ladders for ascending to sheds, lofts, and upon hay stacks. Make them in rainy weather in the farm work-shop, if you have one.

Manures—Large additions may be made to the compost heaps by cutting coarse swamp grasses, and weeds which are unfit for fodder. Cut them before the seed is formed, otherwise many will ripen and be scattered over the farm with the manure. Decomposition goes on rapidly aided by the heat of Summer, and sink slops, contents of privies, etc., will be offensive unless plaster, muck or other absorbents are used to retain the escaping gases. Remember that every ounce of ammonia lost, is equivalent to the loss of perhaps a bushel of grain.

Oats—Cut at earliest maturity as directed for wheat and rye. If they be too short to bind well, use rye or wheat straw. Store them where there is good ventilation. Clean bright oat straw is very valuable for fodder.

Pastures—Do not allow them to be fed too closely. If the roots of grass are unprotected from the scorching heat of Summer, it will die out rapidly. A plot of early sown rye, sorghum, or corn, to be cut and fed this and the next month, will aid in keeping both pastures and stock thriving.

Poultry—Keep them from the grain fields until after harvest, then allow them to glean. Collect the eggs daily, and allow no hens to sit at this late season. Fall chickens are seldom worth raising.

Potatoes—Do not disturb them after blossoming. If the potato fly (*Cantharis vittata*) is injuring the vines, many may be destroyed by two persons sweeping the field with a sheet held by the four corners, in the form of a bag. Destroy the insects when collected, by scalding. When dried, they are medicinally useful for drawing blisters. Dig early varieties as they mature, and sow turnips or set cabbages in their place.

Rye—Cut as soon as the grain is passing from the milk state, or when it is sufficiently hard to bear moderate pressure with the thumb nail.

Seed Rye, Wheat, etc.—Leave the best parts of the field to ripen fully for seed. Remove all weeds before gathering, and thresh as soon as practicable after harvesting. Read article on page 208.

Sheep—Keep in thriving condition by good range of pasture. They may be used to advantage in subduing fields overgrown with briars. Visit and salt weekly. Watch against the appearance of foot rot and other diseases. Read article, "Rot in Sheep," page 205.

Soiling Crops—Sow millet and corn, to be used for soiling late in the season. What is not needed for feeding green, may be cured for winter fodder.

Swine will find abundant feed in the harvest field after the crop is removed. Let them glean what has escaped the rake. Insert rings in their noses if

needed, to prevent injury from rooting. Those confined to the pen, should have access to clear water in addition to the wash of the dairy, and grain enough to keep them in good condition; they will fatten more readily in the Fall.

Timber cut during this and the following months is generally considered more durable than when felled in Winter, particularly those kinds which abound in sap. If practicable, secure enough for next season's wants for fencing and building.

Tanner's Bark—Hemlock and oak bark will "run" during most of July, and may be peddled at any time unoccupied by other labor.

Tools—Before commencing work with reapers, mowers, threshers, etc., see that every part is in good order; a little neglect may cause vexatious delay. Keep all bearings well oiled, and knives properly sharpened. If the mower is left in the field over night, cover it with tarpaulin, oil cloth, or other protection from dew and rain. Improve rainy weather by repairing implements needing it.

Turnips—Sow largely, *f*, *m*, before the 20th if practicable, but later if necessary; a good supply of these and other roots will be appreciated by stock next Winter, and will save hay and grain.

Weeds—Canada Thistles, Snapdragon, and other persistent weeds should be taken out by the roots. Cultivating a field with buckwheat will aid in subduing them. If nothing more can be done, mow them before they pass from bloom. If left after this period, many seeds will ripen on the stalk after cutting. Any weed may be destroyed by repeated cutting close to the ground, but it must be followed up through the season to be effectual. In the case of thistles in pastures, a little salt dropped on each stem after cutting, will attract animals to work about them, and keep down the young shoots.

Wheat—Cut as directed for rye. If for seed, pick out weeds from the grain as it lies in the swath. The market price of this grain is much injured by the presence of cockle or other foul stuff.

Orchard and Nursery.

Though July is a busy month with the farmer, yet the orchard should not be neglected. There is comparatively little to do in this department, except pruning the trees, but whatever requires attention should be done at the proper time, here, as elsewhere. The trees should now be growing rapidly, and it is important that nothing obstruct this growth. Keep grass and weeds away from the trunks, and if they are inclined to barrenness encourage the development of fruit buds. This may be done in several ways. One is judicious root-pruning; another method is to bend down the outer branches and tie them to stakes. This compresses the sap vessels, and tends to the formation of fruit buds. A third method is to bind a rope or strap firmly around the trunk or main branches of the tree to stop a portion of the returning sap and force it into blossom buds. Shortening in the extreme growth of the present season tends to the same end, and improves the appearance of the tree.

The regular annual pruning should now be attended to. If this has been properly performed each year, the labor will not be heavy, nor will any other instrument than a good pruning knife be needed. If, however, the orchard has been neglected, a fine tooth saw, sharp knife, and coating cement should be provided. We esteem the early part of this month the very best time to remove large limbs. Pare the sawed portion with a knife and coat the wound with gum shellac dissolved in alcohol to the consistence of thin molasses.

The ripening cherries are now furnishing the first tree fruits of the season. Unfortunately the severe Winter and late Spring frosts injured the trees so that the crop is light in most places. Bottle a portion of the fruit as recommended on page 215. Save pits for nursery planting and put in boxes of earth at once.

Thin the choice apples and pears, especially if grown on small trees. Better pluck all but one or two specimens from trees set last Spring.

The nurseryman will begin to bud plum, cherry

and pear trees by the middle of the month. Use every precaution in securing true sorts, and mark the rows carefully. Insert the buds close to the ground. It is not necessary to remove the wood from the bud. Stocks budded last season, may now be rounded off close to the growing bud. See that all suckers are removed.

Inarching may now be performed on both deciduous and evergreen trees, and quinces and other shrubby plants be increased by layering new wood.

Insects are now troublesome, unless they were kept in check as advised last month. Continue to dust plum trees with lime, or syringe with the oil soap mixture, to repel the cecidius. Make friends of the birds, even if they do take a few cherries. See article on apple borers, page 209.

Plow, or run the cultivator between nursery rows, to loosen the soil and keep down weeds. The hoe will also be needed for the same purpose.

Kitchen and Fruit Garden.

One pleasing feature of this department of home labor is the quick return received. Seeds of vegetables sown in Spring, are already yielding the first fruits of the garden, and as the season advances, each month brings its increase. There is danger that the garden may be neglected in the busy season of haying and harvest; but no part of the homestead pays better, especially if well worked. Do not leave hoeing, weeding, transplanting, etc., until some chance leisure hour, but take time at the right season for all operations needed to make a productive garden.

Asparagus—Now that the cutting season is past, allow no bed to become a nursery of weeds.

Beans—Gather for use as they ripen. "String" beans or the young pods cooked with pork, are generally relished. A few quick growing kinds, as Early Valentine, Refugee, and China, planted *f*, will yield a supply for use late in the season, and for putting up in bottles for Winter.

Beets—Keep the rows well hoed. Thin to eight or ten inches apart in the row.

Blackberries—Train the new growth to stakes or trellises. When five to six feet in length, nip off the ends of the new growth, to facilitate the setting of fruit-bearing buds. Support branches heavily loaded with ripening fruit, to keep from splitting.

Cabbage and Cauliflower—Set out, *f*, *m*, for latest crop, and sow seed for plants to be wintered in pits. In gathering early cabbages for table use, cut off the heads, and leave the stumps standing; the new growth of sprouts will furnish excellent greens.

Celery—Transplant for late crops, *f*, as directed in Calendar for June. Hoe former plantings often.

Corn—Plant, *f*, for late use, and for drying and preserving for Winter. Hoe often about former plantings.

Cucumbers—Plant, *f*, for pickling. Hoe former plantings, and water occasionally with liquid manure, either house slops, or poultry or cow droppings mixed with water. Guard against insects. Pinch off the ends of vines to prevent too rampant growth.

Currants—Gather as they ripen for table use and for preserving. They are wholesome eaten fresh with sugar, if every berry be broken before swallowing. For jelly, use when fairly ripened. For preserves or wine, leave until fully matured. After fruiting is passed, prune the bushes, cutting out old wood, and as much of the new as necessary to keep in good shape. Remove all suckers which spring from the roots; otherwise there will soon be a hedge-row formed. Watch against insects, particularly the currant aphid, and the borer.

Egg Plants—Keep well hoed and hill up slightly. Forward the growth with liquid manure.

Espaliers, or trees trained to trellises or against walls, are ornamental on the borders of the garden. Pinch out all growth that interferes with proper shape, and keep new shoots well trained. Thin the fruit if necessary, before it has attained much size; the remaining specimens will be improved

Gooseberries—Thin the fruit if the bushes are well filled, and use the first pickings for cooking. Keep the ground mulched to prevent mildewing.

Grapes—Continue to remove superfluous growth. Leave but one, or at most, two clusters of fruit on a spur, and pinch off the ends of bearing shoots four or five leaves beyond the berries. Remove insects by hand picking. Keep the border free from grass and weeds. Mulching is beneficial.

Herbs—Cut while in blossom, dry them in the shade, and preserve in tight boxes, cans, or bottles.

Hoeing frequently will partially make up for want of manure and rain. If the ground becomes crusty, it shuts out air, warmth, and moisture.

Insects require constant watchfulness, particularly upon melons, cucumbers, cabbages, and turnips. Study their habits, experiment to prevent their ravages. He will be a fortunate discoverer who can find a perfect safeguard from the pests. Our principal reliance is on toads and chickens.

Lettuce—Sow at intervals for a succession. The Silesian is valuable for late use.

Manure—Growing plants will be benefited by hoeing in an occasional top-dressing of ashes, plaster, bone dust, guano, etc. Very rapid growth of almost all garden plants may be induced by frequent watering with liquid manure. A shovelful of poultry droppings dissolved in eight gallons of water, will make a strong fertilizer.

Melons—Cultivate as directed for cucumbers. As the fruit enlarges, support it from the ground with a small strip of board.

Mushrooms—Collect necessary materials for Autumn beds, *m*, *l*, as we have formerly directed.

Onions—Keep the beds free from weeds, and the soil loose. Try a weak solution of oil soap, a pound to eight gallons of water, upon a small plot, if troubled with the onion maggot. Thin the plants if crowded; the young growth may be used in salads. Sow seed, *l*, for small bulbs to set next Spring.

Peas—Sow, *f*, *m*, *l*, for late use. Pick from former plantings as they grow to proper size, but leave the earliest and finest pods to ripen for seed.

Potatoes—Dig early varieties, and devote the space to turnips, late spinage, etc.

Preserving Fruits and Vegetables—Read and follow directions on page 215, of this number.

Raspberries—If more fruit ripens than is wanted for immediate use, dry it, or preserve in bottles. When fruiting is over, cut down old canes. Remove all but two or three of the strongest young shoots, and train them to trellises in fan shape, for next year's fruiting. Keep the ground around them well hoed, but do not disturb the roots.

Rhubarb—A good supply for Winter use may be dried, or better, preserved in bottles. For drying, cut the stalks into pieces, and string them on twine.

Seeds—As Turnip, Cabbage, and other seeds ripen, select the earliest and best growth, as fast as it matures, and dry on sheets or newspapers in a loft or other secure place. If neglected until all is ripe, much of the best growth will be wasted. When sufficiently dried, put up neatly in papers—old envelopes are good for this use—mark each package plainly, with the name and date of growth, and keep secure from dampness and mice.

Spinage—Sow, *f*, *m*, for late use. Leave enough plants of early growth, for seed.

Strawberries—As soon as the last fruit is gathered, weed and thin the beds, and transplant young rooted plants for new plots. Culture in hills or rows is generally recommended. To keep them in proper bounds, clip the runners as they appear. Ashes worked into the soil will be beneficial.

Thin out old plants which are crowded, and pick off melons, tomatoes, etc., which set too late to ripen. Those left will be all the better.

Tomatoes—Train to trellises of lath, or support with frames of poles, or brush, as for peas. When a fair quantity of fruit is set, nip off the ends of the vines to prevent further growth, and allow the sap to perfect the fruit.

Transplant to supply vacancies in rows of corn,

hills of melons, etc. By following directions given in previous numbers, this can be done successfully in the hottest weather.

Weeds disfigure the garden, and injure the growing crops. Keep them under by frequent hoeing, and by mulching with straw, tan bark, leaves, etc.

Flower Garden and Lawn.

The cold wet weather of May and June prevented many seeds from vegetating, and retarded the blooming season of many perennials. Still, the flower borders should now be rich in bloom, for while the early sorts still linger, the later varieties are unfolding. July is a growing month, no less for weeds than flowers, and hoes, rakes, and fingers will all be needed to keep the borders in good condition. Now is the time to train the rapidly growing shrubbery to proper form. Pinch back the leaders if a more compact head is wanted; prune off lower side shoots to increase the height, when desirable.

Annuals of quick growth may still be sown, *f*, to take the place of early blooming plants. The most of them will flower before frost, even if they do not ripen seed. They will also help to lengthen out the floral season. Soak the seed over night to make them vegetate quickly.

Box edgings may now receive their final shearing. Cut to a line stretched at the top, and pare the sides to nearly a cone shape, but do not shave too closely, or the hot sun will burn the plants.

Bulbs—Those which are to be reset, should now be lifted, *f*, dried, and put away in drawers or wrapped in papers and carefully labeled. It is not necessary to transplant them every year.

Caruations, Picotees, and Pinks, should continue to receive the care recommended last month. They should make a fine show now. Slit the sheath of those flowers which burst upon only one side.

Climbers—See that they are provided with supports. Most of them will follow a string or wire better than any thing else. A small cedar or juniper tree, with the bark and outer branches removed, is made quite picturesque when covered with some climber, filling and drooping from the branches. The climber can be kept in bounds by pinching.

Dahlias may still be set for a late bloom. Keep well tied to stakes and cut off lower side branches, leaving a single stalk to a hill. Watch for and destroy borers which are now penetrating the stalks.

Evergreens make much of their growth in July, and are particularly ornamental at this period. No lawn or ornamental ground is complete without a collection of them. They are beautiful at all seasons, and fine for the "Winter garden." Now is the season to prune them. If to make stately trees, leave the leader uninjured, but when desired to form shrubs, both the upright and principal side shoots may be pinched in.

Flower stalks should be cut down as soon as they have finished blooming, unless seeds are wanted. Annuals may be sown or transplanted near them, that no space be wasted.

Geraniums are in full flower, and if well arranged, make a fine show. The Tom Thumbs answer admirably for bedding out. Both layers and cuttings may now be made. They take root very readily from cuttings, and this is the proper season for starting a supply to bloom in the houses next Winter. Shade from the hot sun, and water freely.

Gravel walks—Pull the weeds by hand, or run a scuffle hoe beneath the gravel.

Hedges—The first clipping should be finished, *f*. Cut evenly and to a line upon the top, leaving them a little cone shaped. Do not trim from the sides near the bottom at this season, as the object now is to thicken the hedge. Thin places can soon be filled up by judicious pruning.

Hoe grounds often. Even if there are no weeds, the soil should be frequently stirred with a hoe or rake, to prevent crusting. Use a push hoe and walk backwards, which will leave the weeds loose upon the top without any footprints; remember that even in dry weather, a good hoeing is frequently better than a watering, which bakes the surface.

Insects are now troublesome if they have not been kept in check. The favorite multiflora, or choice souvenir rose, looks as though scorched by a fire. An examination discloses multitudes of greenish worms or slugs upon the leaves, eating out the tender portions. Sifting air-slaked lime, or fresh wood ashes over the bushes each morning, while the dew is on, will soon destroy them. A still better application is one pound of whale oil soap to six gallons of water. Apply with a syringe or watering pot twice a week, until they disappear. The same solution will drive away the small leaf-hoppers, often quite troublesome.

Lawns and Grass Edgings—Mow or shear once a fortnight, to keep a thick, green bottom. If the short grass is left evenly spread upon the surface, it serves to protect the roots from the sun, is soon hidden by the new growth, and its decay eventually enriches the soil. Do not let the turf encroach upon the flower borders, or grow too closely around newly planted, or even established trees. If suffering from dryness, a hydrant, or other sprinkler, may be used to advantage, sprinkling with the waste wash water, or with liquid manure, well diluted with water if it is dark colored and strong.

Layers of new growth may now be put down; they will probably root sufficiently to be removed in the Fall or Spring.

Potted Plants—A few plants probably remain in their pots, and were only brought from the houses for sunshine and fresh air. Whether sunk in the earth, or standing upon the ground, the pots should be turned around occasionally, else the roots will penetrate through the hole at the bottom, and fasten into the soil. They will also require more water than plants growing in the open ground. See that they are sufficiently protected from high winds.

Pruning should be completed early this month, especially the shortening in, that the after growth may have sufficient time to harden before Winter. Late pinching produces a late growth, which is full of crude sap when cold weather comes on. Such plants winter-kill badly. See fuller directions for lawn trees, under "Orchard and Nursery." With shrubbery, the chief object is to give shape, thickness, and develop flower buds. Various curious forms can be given to trees and shrubs by peculiar pruning. See illustrations, p. 176, *June Agriculturist*.

Rhododendrons which have made a magnificent show for several weeks past, are now nearly out of bloom, and are growing finely, preparatory to the formation of new flower buds. Keep the ground free from weeds, and well stirred about the plants.

Roses—The fragrance of the June sorts, and showy clusters of Climbers have scarcely passed away, while Hybrid Perpetuals still exhibit a richness and profusion of bloom. By cutting back freely, a second bloom is often obtained, even from those which usually flower but once in a season. Remove all flower stems as soon as blooming is past. This is the appropriate season for budding. A fine effect is produced by budding several sorts upon one bush. Layers put down now will root before Fall. Cut half way through from the upper side of the layer, and there will be little danger of breaking. Keep pillar and climbing varieties tied to stakes or trellises. Use the oil soap solution to destroy slugs and leaf hoppers. The rose bug dislikes the odor. Prune those trained as standard or tree forms, and head back pillar and climbing sorts.

Salvias and Heliotropes make a good show of bloom at this season. They can be pegged down and spread so as to form a mass of flowers.

Seeds—Some of the early blossoms are ripening seed, which should be gathered—some sorts every other morning, before being wasted on the ground. Perennials sown now will bloom freely next season.

Stake or otherwise confine all tall growing plants liable to be broken down by high winds.

Thin plants requiring it, remembering that a shrub or flower can not fully develop itself when crowded. Beginners usually leave them too close.

Transplant annuals, perennials, etc., sown last month. Set in places occupied by early bloomers now decaying, thus using the ground twice

Verbenas—These admirable bedding plants now show a mass of bloom, if properly arranged and spread by layering and pegging. The ground may be entirely hid beneath a mat of flowers and foliage. Continuing in bloom all Summer, of various tints and hues, the verberna is a universal favorite. Now is the time to provide a good stock, by layers or cuttings, for blooming in-doors next Winter.

Water must be given occasionally to trees and shrubs set in the Spring, also to herbaceous plants. Frequent stirring of the ground will do much toward bringing up moisture from the soil, and it assists in absorbing dews. As often applied, water does little good; a pail of water dashed upon the ground soaks in very little, while it helps to bake the soil. Scoop out a hollow about the tree or plant, pour in the water from a spout or sprinkler, and when soaked in, return the surface soil.

Weeds will not, of course, be tolerated among flowers by good gardeners.

Green and Hot-Houses.

Little more than bare walls is to be seen, except in propagating houses, the contents of most of these buildings having been transferred to the open grounds, some of them turned from, and others still growing in the pots. Those who raise plants for sale, still find it convenient to use the houses for striking cuttings, as they can better control sunshine and shade, moisture and dryness, and guard against the extremes of temperature. In striking cuttings of succulent plants, for instance, there is so much evaporation from the leaves and stem, that it draws heavily for nourishment before roots are formed. A glass structure confines much of this moisture, and a hand-glass covering is an additional protection. Care must be exercised not to admit the direct rays of the sun through ordinary glass. If the glazing is corrugated, it will probably be sufficient, otherwise a coating of gum arabic, or glue and whiting must be applied to the glass, or a muslin screen stretched over it. The walls and floors should be syringed frequently to keep up a humid atmosphere, and the ventilators and doors be kept open most of the time. Future wants should be anticipated, and large numbers of cuttings of the leading varieties be put in for a stock of Winter blooming plants.

Callas—Repot towards the latter part of the month, watering less freely.

Cissus, and other trailing, or climbing plants should be arranged in suitable positions for training. They should be near the glass.

Grapes—Some of the houses have already ripened their crops, and the plants should be checked in growth preparatory to a period of rest. A dry atmosphere, and dryness at the root will soon stop their growing. Those plants which have received less forcing will need some attention now. The ends of bearing shoots may require still further pinching in, and some of the clusters should be thinned again. Water and syringe freely. Use sulphur upon the first appearance of mildew. Keep well ventilated.

Insects of all kinds need especial looking after now. The whale-oil soap solution will prove sufficient in most cases, although it may sometimes be necessary to resort to tobacco fumes.

Orange and Lemon Trees should now be budded, if not already done. Water bearing plants freely and thin fruit as needed.

Potting soil should be provided in ample quantities for next Fall and Winter. It is better to keep a year's supply on hand, as it improves with age. Many seedling and other plants are now ready for potting, and they should early be put into suitable pots, of small size at first, changing to larger ones as they increase in growth.

Prune plants, if, m, to bring them to good form. With some of the plants the old wood requires cutting away to renew the growth.

Seeds—Gather any ripening, and save with care, except such as may be planted at once.

Water—Give copious supplies during the warm,

dry weather of this month, sometimes both morning and evening. Wash freely with a syringe.

Apiary in July.

Prepared by M. Quinby, by request.

As the Summer here (Montgomery Co., N. Y.), is more backward than usual, we expect the swarming season to extend very far into July. This in itself is not discouraging: as long as the bees can avail themselves of all the flowers which come into bloom in succession, and lose no time by rainy weather, it makes but little difference whether they gather the honey of the apple blossoms the 10th of May, or the 1st of June. Swarms may be considered early, two weeks after apple blossoms are gone.

The surplus honey boxes should now receive particular attention. They should be removed as soon as the cells are generally sealed over, without waiting for the few on the edges to be finished, as some of them may not be closed for a month. Combs grow darker the longer they remain on the hive. When the bees have a full harvest, boxes should be examined often. Replace with empty ones as fast as filled, for the purpose of giving the bees room to work, as well as to have the combs pure. All the best honey will be stored by the last of July; what is obtained late, will be in small quantities, and if any is stored in the boxes, it is done so slowly that it is of dark color. In the vicinity of buckwheat, boxes may be rapidly filled, but the honey itself is dark and inferior, even if stored in very white combs. Boxes not quite full of white honey are worth more in market than if filled out with that from buckwheat. On removing boxes from the hive, when bees are getting honey plentifully, they may be set down near the entrance—not in the hot sun—and the bees will readily creep out in a short time, without returning to carry off the honey; though when the supply has failed wholly or partially in the flowers, they will, if allowed, take it all. To prevent this, put the box on its side—combs vertical—in a box or barrel, cover with a thin cloth, turn it over occasionally as the bees gather on the under side, until they are all gone.

Three weeks after the first swarm, is the time to examine for diseased brood; when present, drive out the swarm to begin anew. When the combs are old enough to make pruning necessary, this is the time to do it. It is important that all old stocks have a queen; a week or two later than the above period it is time to find some indication of her presence. It is readily ascertained with the movable comb hive, by lifting out a frame or two in the center. Brood or eggs, are conclusive of her presence. With the box hive, when no immature brood is discovered on the floor, or about the entrance, turn it over, and look down near the center of the hive on the sides of the combs, for sealed brood, driving the bees out of the way with smoke. When a hive, otherwise very good, contains no queen, break up some poor colony containing one, and supply the queenless stock.

When from any cause bees are reduced so as not to cover the combs for a long time, the worms will be quite sure to destroy them; and if a colony of this kind can not be reinforced by some means, the contents—honey and wax—should be secured in advance of the moth, even if the few bees are wasted. Those who use the movable combs, can often add strength to a weak stock or a new swarm, by taking a comb filled with sealed brood from a strong colony, and introducing it. Protect it from a chill, by throwing over the hive an old blanket during cool nights before the brood hatches.

July and August produce more moth worms than we find all the rest of the season. There is no danger from this cause, to strong healthy swarms, but the weak ones suffer. Under the small swarms, half full, lay some old pieces of dry comb; the worms will gather around these, which may be taken out occasionally, and the worms destroyed. Set shallow dishes filled with sweetened water, among the hives at night, for a few weeks. Give the moths that drown in them to the chickens. This liquid grows better as it gets older. Add a little water and molasses occasionally as it dries away



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Read the Chapters on Draining.—However imperfect may be our articles on Draining, the subject is one of the highest importance, and no one can fail to get some useful hints and suggestions from what is said in these chapters. The first articles should be read by those who have as yet omitted to study the earlier numbers of this volume, beginning with February, page 36. The day is not distant when he who does not understand and practice thorough draining, will certainly be far in the rear of the front rank of *successful* cultivators.

The Special Premiums, of new Wheat, Turnip Seed, and the Barometer, which are seasonable this month, will be found on page 220. A few Special Book Premiums will be found on the last page. The Standing Premiums for the volume are continued on page 218.

Advertisements of Good Articles by reliable parties, will be found on pages 219, 221, 222, and 223.

Sale of Jonas Webb's Sheep.—Owing to the infirmities of age, and a desire to retire from active pursuits, Jonas Webb, the most noted breeder of sheep in the world, has decided to give up breeding Sheep Down Sheep, and he has announced for sale at Public Auction, without reserve, his entire flock of about 1000 head. The sale will commence July 10th, at his residence, Babraham, England.

Try Hay and Grain Caps.—We wish our readers would try these excellent implements this year. Get coarse sheeting; $1\frac{1}{2}$ to 2 yards wide; tear it into square pieces, and rough hem them; sew upon each corner a cord to form an eye or loop; provide sharpened stakes a foot or so long; spread one of them over each cock of uncured hay or shock of grain, fastening it down at the corners with the wooden pins; then sleep soundly if it does rain. These caps, without any preparation, if put on in the form of a tent, will shed off the rain, and allow the hay to cure beautifully, and the grain to dry out at pleasure. They will last for years; and generally pay for themselves each year.

Salting Hay.—This is a well established practice among farmers, and is of use if the hay is not fully cured when housed. We prefer to have hay well cured, without salt, and this can always be done, now that we have hay caps to guard against storms. Salt has a preserving quality, but the hay may be so green as to heat in spite of it, or so much coarse salt may be used that it will not all be dissolved. Fine salt is better than coarse, as it can be more equally distributed through the mass.

American Herd Book, Vol. V.—Containing Pedigrees of Short-Horn Cattle, with Introductory Notes, by Lewis F. Allen, Black Rock, Erie Co., N. Y. This standard work is of great value, indeed, indispensable to breeders of Short-Horn or Durham Cattle, and is so well known that we need say little more than to merely announce that it is ready for delivery. Both this and the preceding volumes should be in the archives of all Agricultural Societies where Short-Horns are bred and exhibited, for reference in deciding upon the points of blood of competing animals. It can be obtained by forwarding to Mr. Allen, as above, \$5.00, or \$5.40 if the book is to be sent by mail. The three previous volumes can be had for \$11, or the four for \$15. The first volume is out of print.

"United States Mail" is the name of a valuable monthly Journal, published at New-York by the Editor and Proprietor, J. Holbrook, the well known Special Agent of the Post Office Department, who has probably had more to do with ferreting out Post Office robberies, than any other man in this country. He is the author of an interesting book entitled "Ten Years among the Mail Bags." The journal is filled with a great variety of useful information in regard to all matters connected with the Mails, Post Offices, etc. Terms, \$1 a year. Address "Publisher of United States Mail, New-York."

Bee Books.—E. E. Brown, Jones Co., Iowa. Langstroth's Hive and Honey Bee, (\$1.25), and Quinby's Mysteries of Bee Keeping, (\$1.00), are both good books, which will give you the desired information. We can send them post-paid on receipt of price.

War Book.—"A Manual of Military Surgery, or Hints on the emergencies of field, camp, and hospital practice, etc., by S. D. Gross, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia," is the title of a valuable little work for the times, published by J. B. Lippincott & Co. Price 50 cents.

Chess produced from Wheat by Sheep, etc.—Among the multitude of claims for the chess premium, Mr. John W. Puffer, of Kewaunee Co., Wis., sends in the following, which we will put "on record." Sow winter wheat in Spring; let sheep feed it down during the Summer; and the next year it will yield a crop of chess—Let those who have faith enough try this method.... William Eckly, of Genesee Co., Mich., makes a similar claim.... N. N. Hartzell, of Hancock Co., Ill., says he has been successful by two somewhat similar processes, and asks for the premium.—1st, he mowed the wheat down after it was in joint or stalk, and it grew again and headed to chess at six inches high.—2d, he covered the wheat with a plank until yellow, and then cut it off, preparatory for a growth of chess.

Wheat and Chess—Final answer for the Present.—We are compelled to beg a "truce," and "retire from the field" for the present, that is so far as replying to the letters fired at us by companies, regiments, and whole brigades. We begin to despair finding storage room even, for these missives that continue to come faster and thicker than ever. A simple offer of a premium of \$500 was made to the first one who would go to work and ascertain by repeated experiments, just how wheat can be made to produce chess, if it can be done; to ascertain this so definitely, that we and others can repeat the experiment and produce the same result. We want to grow a crop of chess, (*not shrunken wheat*) from good wheat seed, if it can be done. When this is accomplished, the \$500 will be ready, and cheerfully paid. This plain straightforward offer has called forth a host of applicants, many of them demanding the premium on the strength of being able to prove that sometime within the last twenty years they have found chess growing where it could only have come from wheat. The offer was made on no such easy terms. If it is not large enough to stimulate the transmutationists to make new and careful experiments, such as will establish the fact, and definitely ascertain how the thing can be done, and repeated with success, we will double or triple the amount—but not for any half-way guess work. While such experiments are being made, please let us have a truce in the useless letter contest.

Can't do It—Lotteries.—Several persons write that they have purchased Lottery Tickets through dealers in Wilmington, Del., which, they are sure, drew prizes; but the dealers refuse to send them the full report of the drawings, or to answer their inquiries. The best of the joke is, that some of these persons write desiring us to interpose in their behalf, and even offer us half of the receipts for our trouble.—Can't do it, gentlemen; we could not consistently use the money obtained from such sources; and besides, there would be little hope of getting it. These lottery dealers are sharp, unprincipled chaps, up to any dodge; and any one who would trust to their forwarding a prize, even if drawn, must pay whatever he invests, for his information. *There is not a lottery in the country that is not an unmitigated swindle!* And such a thing as an honest dealer in lottery tickets is not to be found this side of the hot regions! What they have down there, can't tell—and hope never to know.

Lime and Barn-Yard Manure together.—A subscriber asks if in the use of lime and manure in Autumn or Spring, they may be applied at the same time. We answer, generally not. Manure from the yard is usually somewhat decomposed, and the decay will go on fast enough without the aid of alkalies. Lime, ashes, or other alkalies, act beneficially by decomposing unfermenting organic matters in the soil, such as small roots, peat, muck, etc., and fitting them to nourish growing plants. Fresh lime, or ashes, mixed with manure, decompose it too rapidly. When both are to be used, it is better to apply one to the soil at a time, and thoroughly work it in with a plow or harrow. This may be done in Autumn or Spring. Then, at the latest period before using the soil, work in the other; if lime were used at first, apply the manure; and, *vice versa*, apply the lime if the manure were previously used.

Transient Showers and Draining.—John P. Cone, Atchinson Co., Kansas, asks if draining would not be detrimental, when only transient showers fall, at long intervals, as happened in Kansas last year. Doubtless temporary injury would result; yet the constant deposit of moisture from the air circulating through the drains, and up through the soil, would more than counterbalance the occasional cases like those referred to.

Depth of Milk in Pans.—The best depth for setting milk in pans may be ascertained by making a considerable number of experiments like the following, related by a correspondent of the Homestead: He set twelve quarts of milk in each of two tin pails, of such size that the milk stood *ten inches deep*. Total weight of milk 47 lbs. 10 oz. The next day the same quantity of milk from the same cows was put into pans at a depth of *two inches*, and placed on shelves by the side of the pails,

the temperature of the room being about 50°. In four days the first milk was sour, and on being skimmed, gave 3 lbs. 2 oz. of cream, which, after standing one day, yielded 24 ounces of butter. The milk in the shallow pans, after standing four days, gave 4 lbs. 8 oz. of cream, which yielded 33 ounces of butter, or 9 ounces in favor of shallow pans—equivalent to 37½ per cent increase. A number of experiments, varying the depth of the milk, would be desirable.—We shall be glad to receive reports of accurate experiments for the *Agriculturist*.

Dwarf Apples.—Several inquirers. The Paradise and Doucain stocks are small distinct varieties of hard sweet apples, propagated from cuttings, layers and shoots. The Paradise is preferred. By cutting down the main stem and banking up about the stool, an abundance of rooted suckers is obtained for separate planting. These are afterwards grafted, or budded with standard varieties, and the growth is stunted or dwarfed. They are also raised from cuttings, the same as quinces.

Shortening in Peach Trees.—David Engle, Industry. Your trees, pruned Aug. 15, were cut too late in the season. The after growth did not harden off sufficiently to stand the Winter. Better head back from 1st to 15th of July, no later, unless it be left till the season's growth is over, say in October.

Pruning White Pine.—"Querist" may prune his pine trees in June or July. Nip the shoots with thumb and finger if a dense shrubby habit be desired, and cut off the lower branches if a tall naked body be the object.

Barren Strawberries.—Jas. Stephens, Putnam Co., Ind. Hovey's Seedling Strawberry, is a pistillate and will not bear alone. Better cultivate in hills, setting one of Wilson's Albany, Large Early Scarlet, or some other perfect or staminate variety to ten plants of Hovey. A small plot of staminate, growing near the pistillates, answers the same purpose.

Small Private Green Houses.—Several inquirers. The information asked, will be given when we can have it well done.

Worms at the Roots of Pot Plants.—S. A. Snowdon, Clinton Co., O. In potting plants place a little pulverized charcoal in the bottom to keep worms from entering. When already there, apply lime water freely, or drown them by immersing the pot in a tank of water.

The Army Worm, is committing ravages in the Western States, as we learn from numerous private letters. J. H. Abbott of Christian Co., Ill., says they are destroying the corn and wheat fields, and asks what will check their depredations. It is recommended to plow or dig a trench around the fields which are threatened by their invasion. The insects usually come in *armies* from one direction; one account says they are traveling from east to west. Before they reach a field or farm, plow around it, turning the furrow *from* the field, leaving smooth clean cut which the worms can not easily ascend. Two furrows are still better, throwing the second one out with a spade, or following with a subsoiler. Then throw out the loose soil, and leave a smooth perpendicular cut one foot in height, next the field. Great numbers of the invaders might be destroyed after they have entered the furrow, by covering them with straw and burning it, repeating the operation as often as a sufficient number are collected.

Borer on the Plum Tree.—J. W. R., Philadel phia, Pa., sends to the office of the *American Agriculturist*, a specimen of a worm found at work in the bark of a green gage plum tree. It is evidently a species of borer, resembling the *ageria exitiosa*, which is very destructive to the peach, and is also found upon the plum. The latter insect, however, so far as we know, confines its attacks to the bark of the root. The only sure remedy for the borer, is to cut it out from its hiding place, which can be found by examining for punctures in the tree, and following the track with a wire or knife. The parent insects may be entrapped in large numbers by hanging bottles partly filled with sweetened water in the tree.

Abseonding Bees.—The Bee Journal says that the only reliable means of preventing the absconding of a swarm, besides the forming of artificial colonies, is to drum out the first and second swarms at the proper period. To prevent a natural swarm from decamping after being hived, place it in a cool room or a dry cellar for twenty four hours, supplying it plentifully with honey. The bees will commence building comb, and will remain contented when afterward brought out and placed on the stand.

Wax or Cement for Bottles.—J. Truman, Hampden Co., Mass., 2 pounds of rosin melted with about 2½ ounces of tallow or lard, makes a cement which will not crack, and is equally as good as "sealing wax."

Hen Manure for Insects.—A Wisconsin subscriber has tried this remedy with success in driving away ants from apple blossoms, and from peonies, and to expel bugs from squashes. For four years he has covered the top of the ground around cucumbers, squashes, and melons, with hen manure, and has had no trouble from bugs. He applies a wash made of hen manure to the bark of fruit trees and shrubs, to guard them against mice, rabbits, and sheep. It also routs the bark louse. One thing is certain, it is a powerful fertilizer, and perfectly safe.

Manure Sheds.—To several subscribers. There is no doubt as to the economy of erecting some cheap covering for the manure heap. It need not be water-tight—a little dripping will be needed, and sometimes an occasional watering, if the heap begins to fire-fang, that is to get dry and mouldy in any part, which should be looked after. The washing of heavy rains carries off most of the best portions of manure. Plenty of straw, or muck, or even of loam, under and over the manure heap, is a great economizer of rich fluids and gases that would otherwise escape and be lost.

Sorghum Syrup.—S. D. Watkins, Grant Co., Wis., manufactured 75 gallons first quality syrup from $\frac{3}{4}$ acre of cane, and asks what book will give him the most information relative to raising and manufacturing upon a large scale. We think he is already ahead of the books published on the subject. The practical experience of cultivators, detailed in the *Agriculturist*, will be of much value.

Sugar Crop of Vermont.—C. T. Alvord, writing to the Country Gentleman, from Wilmington, Vt., says the maple sugar crop of that State is one of the most profitable crops produced. In 1857 it was more than 8,300 tons. It is estimated that 200,000 pounds were made, the past Spring, in a single town; this, at 9 cents per lb., amounted to \$18,000.

Manure for the Hauling.—D. Edson Smith, Johnson Co., Iowa, writes that in their cities and villages, manure can be had for the hauling, with help to load it thrown in. How our farmers about New-York would make money out of that! In our own neighborhood we pay 60 cents per small one-horse cart load—and small loads they are—yet find it better than to do without good stable manure. Western farmers should improve the present opportunity to keep their laud in good condition—a little expense now will tell hereafter.

What is a Sound Horse?—Oliphant defines soundness thus: "We may call a horse sound, when he is free from hereditary disease, and is in the present possession of his constitutional health, and has as much bodily perfection as is consistent with his natural formation." This is not so very definite. It is perhaps enough to say that a sound horse is one which has no marked hereditary disease, and no present disease or defect, to impair his present usefulness for the kind of labor he is intended for.

Raising Late Calves.—"Inexperience." Calves may be raised successfully at any time of the year, provided sufficient pains be taken to feed them properly. It is advisable, however, to have cows come in early in the season, say in April, as the calves get a better start before Winter, and are more easily kept on dry feed.

Fatal Disease in Calves.—A. Gardner, Wyoming Co., Pa., writes that he recently lost two calves, one of which died in twelve hours, and the other lingered three or four days, and was killed to relieve it. The symptoms of the disease were obstructed breathing, and wheezing, followed by bloating. He desires to know the nature of the disease and the remedy if there be one.

Sneking Heifers.—A subscriber asks for a remedy. The slitting of the tongue we do not approve. There is nothing better than a stiff leather muzzle, with small tacks driven through to prick the eow when the calf offers to suck. She will not stand the pressure a moment.

Making Breeding Sows Docile.—Y. T. H. writes that by rubbing or scratching the back of a wild young sow while she was fed daily, she was made as gentle as could be desired.

Gapes in Chickens.—A subscriber recommends one feed of soft soap with Indian meal, as a cure. We can not speak of its efficacy from actual trial.

Remedy for Cholera in Hens.—"S. A. C.," Binghamton, N. Y., writes in answer to a query in the June *Agriculturist*, that he had hens affected with a disease resembling cholera, which were cured by administering pounded chickweed (*Stellaria media*) and pulverized charcoal, mixed with sweet milk.—How much, and in what proportions?

Prairie Fowls on Long Island.—Grouse were formerly plenty upon the plains of Long Island, but the sportsman's gun long since swept them away. Efforts

are now being made to introduce them from Illinois, and a supply has already been received. We hope that the attempt will be successful. The game laws, which are ample for their protection, should be resolutely enforced.

Partridges and Prairie Hens have been sent to England for naturalization. They arrived at their destination in good condition.

Worms under a Plank.—J. S. Perry, Wayne Co., Mo., writes, that cut worms can easily be captured by laying boards along rows infested by them, under which they will collect in great numbers. He says he discovered this accidentally while removing a board from his garden, where he has killed hundreds of worms by turning the board every few hours. Query: were they cut worms? Common earth worms collect in this manner, but does the cut worm? We think not.

Ants Injuring Peonies.—Mary Burger, Co-shocton Co., O. Your white peony is doubtless kept from blooming by the ants. They injure the roots by burrowing among them. Strew a little lime over the foliage of the plants and upon the soil. A few applications will drive them away.

Camphor Gum for Bugs in Peas.—A correspondent writes that he puts camphor into the cask where he keeps his peas through the Winter. He observes that dead bugs are always found in the bottom of the cask, and very few bugs appear in his peas the following season. He puts these facts together, and has faith in the remedy. It is well known to many housekeepers, that camphor is very offensive to moths and other insects.

Currant Bush Borer.—"Boy Reader," Buffalo, N. Y., will find his currant bushes have been preyed upon by the *Ageria tipuliformis*, of the same family as the apple tree borer. The blue-black moth lays its eggs near a bud during the latter part of June. The eggs soon hatch and the insects bore into the pith nearly severing the shoot. We know of no good remedy. Destroying the moths, either by bon-fires for them to fly into at night, or entrapping in bottles of sweetened water, will diminish their ravages.

Apple Tree Insects.—M. J. Eagan, Milwaukee, Co., Wis. Specimens of wood with eggs enclosed have been examined. We can not make them out, but judge, they were deposited by a species of Cicada less in size than *Cicada septendecim*. Shall be glad to learn more about them—when the first punctures are made, and if possible by what insect.

Blighted Apple Leaves.—"Inexperience," Davenport, Iowa. The leaves forwarded are received, somewhat dry and broken; they show no signs of insects that we can discover in their present condition. The probability is, that too much water at the roots, or soluble iron salts in the soil, or other defects in its structure, are the cause. Try loosening it up, adding ashes if heavy or damp, or rotten manure, if the soil be sandy. If water stands in holes dug near the tree, draining is essential.

Bark Lice.—M. J. Eagan, Wisconsin. Strong soap suds, or potash water applied to the trunks and branches with a cloth or brush, is the best remedy. Wash the trees in June or July, when the insects are young and easily washed off.

Scale on Osage Hedges.—S. Smith. Better destroy the scale than cut down your hedge, especially as only 10 feet is affected. See directions given above for removing these insects from fruit trees.

New Seedling Rhubarb.—Mr. Elizur E. Clark, New-Haven Co., Conn., has exhibited at the office of the *American Agriculturist* specimens of a new seedling rhubarb of great promise, which he has named the Washington. It was selected as the best of over 2,000 plants raised by him from seed of the Victoria variety. The stalks exhibited were from 2½ to 3 feet in length, and from 1½ to 2½ inches broad, weighing, with the leaf attached, from 2½ to 2¾ lbs. each. The color is a fine light green, the leaf less in size than the Victoria, and very soft and tender. The variety is distinctly marked. It is claimed to be two or three days earlier than the Victoria, of a finer acid, and the most tender sort known.

Sugar Beet and Horse Bean.—E. B. Whitman, Douglas Co., Kansas. The white sugar beet is considered the best variety. We do not know where the English horse-bean can be had in this country.

English Brown or Speckled Pea.—S. Hess, Lancaster Co., Pa. The peas enclosed in your letter, are of the above variety. They are largely grown in England as a field pea, but are little cultivated in this country.

Squashes without Seeds.—John Ruddle, Carbon Co., Pa., raised some Honolulu Squashes last season, one of which, weighing 20 lbs., was kept until May 21,

and when cut, proved excellent, but had not a single seed in it, or the appearance of a seed—certainly a very uncommon occurrence. The other 8 on the same vines were all filled with seeds.

Bahlias from the Seed.—This is not the best method of getting this flower, and is resorted to only to obtain new varieties. If the seed is sown in a gentle hot-bed in April, the young plants will be ready to set out in two or three months. Only a small number will produce perfect flowers, and they will likely be of a great variety of colors, even though the seed be all from a single plant. The most satisfactory method of multiplying this plant, is by dividing the roots. Each tuber must have a shoot attached, and to secure this, it is better to start them in boxes of earth before planting.

Double Flowering Apple.—Mr. J. F. Cleu, Dutchess Co., N. Y., has shown us apple blossoms with 25 to 30 petals, instead of the 5 ordinarily seen in the apple bloom. On this tree the flowers are always double, and quite showy, and the tree bears fair crops of good fruit. It was imported from Europe. Variety not known.

A Large Pine Apple.—Pine Apples usually weigh 2½ to 4 or 5 lbs., and such have lately been selling at 6 to 15 or 20 cents each. We notice one in the window of Taylor's saloon, marked "eleven pounds"—price \$4!

Mammoth Poppy.—Mr. H. T. Haviland, Kings Co., L. I., brings us a flower of the *Papaver orientale*, the four petals of which are each about 5 inches broad by 4 inches in length, forming a cup 8 inches in diameter. The color is a bright scarlet, except that each petal has a jet black spot just below the center. The plant is perennial and difficult to propagate, either from seeds or cuttings.

Aloe.—The drawing sent by J. Paxson, Schuylkill Co., Pa., is evidently a variety of the aloe, of which there are nearly 100 species. We are unable to give the specific name of the kind sent. This family of plants requires a moderate temperature, but little more than that of the green-house, watering only once a fortnight, or three weeks.

Green-House on a Hill Side.—J. S. Harris, Houston Co., Minn. A hill-side will answer well, only have at least one side exposed, and a glazed roof. Use stone for the ground walls and wood for the open or outer sides. Better make a hot-bed each season, rather than construct a permanent one.

Grapes for Wisconsin.—J. P. Kepler, Richland Co., Wis., will find the Concord and Delaware hardy and sufficiently early for his climate. They can be had of our nursery advertisers, at say \$1 each for Delaware and 50c. for Concord.

Nasturtiums.—A. B. Phillips, writes that Nasturtiums should be planted on the north-east side of a wall, so as to have shelter from the midday sun; and that they will then run from twelve to twenty feet according to the moisture of the season.

Detecting Poisonous Mushrooms.—Mrs. C. H. Vail, states that mushrooms may be tested by stirring them with a silver-spoon; if any poisonous ones are intermixed, the spoon will be tarnished. We can not vouch for the reliability of the test.

The Tobacco Question in France.—The pupils of the Government Military School in France have recently furnished some curious and instructive statistics bearing on tobacco. Dividing the young men of that school into groups, the smokers and the non-smokers. It is shown that the smokers have proved themselves in the various examinations far inferior to the others. Not only in the examinations on entering the school, are the smokers in a lower rank, but in the various ordeals they have to pass through in a year, the average rank of the smokers has constantly fallen.

Douglass Pine Flagstaff.—The English Gardeners' Chronicle mentions the raising of a magnificent "staff" at the Kew Gardens, which was 159 feet in length, 19 inches diameter at the butt, and 7 inches at top: it weighed near 4½ tons. The tree was found growing in British Columbia, was 220 feet high, and supposed to be 200 years old.

Water from Sulphur Wells.—Luther S. Davis, Manington (?), writes, that he tried the experiment of procuring water from the upper part of a well with the apparatus described in the *Agriculturist*, Vol. XVIII., page 301, and found it needed the hose to be twice the diameter of the discharge pipe, in order to work well.

A Medical Humbug.—B. R. P., Davenport, Iowa. Rev. Wilson, or any other man, whether Rev. or M. D., who advertises a prescription for the cure of consumption, is a humbug. Save your money to buy a horse to ride; this will prolong life more than all the quack out of States Prison.

Are we to Cease Exporting Wheat?—The Prospective Foreign Demand.

[We copy, below, an editorial article from the leading commercial-agricultural journal of England, which will be read with interest by the farmers of this country. It is important, not as giving a correct view of the condition of wheat-growing in this country, but as indicating the opinions held and inculcated abroad, and also as showing the prospective demand for foreign grown wheat for consumption in England. The italicized paragraph, will be specially interesting to our readers at the West, who have still in store a large stock of last year's wheat crop.]

[From the London Mark Lane Express of May 27.]

"It has long been our opinion that the grain-exporting power of the United States was likely rather to diminish than to increase under the ordinary circumstances of the country. This opinion was derived from the statistical notices of the census and of the Patent Office, and confirmed by the statements of Jay, Wells, and other American writers on the subject. (See Note 1). These authorities have warned the agriculturists that if an alteration did not take place in the mode of cultivation, the United States would in a few years require a large importation of wheat instead of being able to export to Europe. The expected result, so contrary to all preconceived ideas of Europeans on the subject, is likely to be precipitated sooner than looked for by the most desponding, owing to the civil war now commenced between the North and the South, that by the abstraction of hands from agriculture will inflict a blow from which it will take many years to recover (2). Already, according to Mr. Jay, the proportion of laborers employed in husbandry is not more than 1½ to every 200 acres; a proportion totally inadequate to the proper cultivation of the soil, and owing to which, large tracts of land are annually becoming unproductive, and going out of tillage and into the wild.

"An American friend, just arrived from the States, has given us a paper drawn up by a statistician of that country, which fully confirms what we have previously thought and written on the subject. And this deduction was made even before the affairs between the North and South had assumed the serious aspect they now present. By the paper written in February last, it is shown that an alarming decrease in the production of wheat had already taken place, and was still in progress; that the Eastern States were rapidly becoming unproductive of wheat; and that the new lands, for want of a mixture of argillaceous soil, will not continue to bear wheat for many years in succession, as is attempted to be done, without being exhausted. After admitting that the crop of last season was very great, but quite exceptional, and that there is a large quantity of wheat in the West ready to be forwarded to the Eastern seaboard for shipment to Europe, the writer goes on to say:

"The tables of the new census being yet incomplete, reference can only be had to the seven previous censuses. The United States exported in 1790, 1,018,339 bushels of wheat; in 1820, 25,821 bushels; in 1830, 408,910 bushels; in 1840, 868,585 bushels; in 1850, 1,026,725 bushels, or only 8,386 bushels more than sixty years before. These extraordinary vibrations in the export are measurably governed by the shortness or abundance of the crop. When short, we have less to spare; when full, we have more. But the fact has long been noticed, that our wheat producing power is rapidly declining. In fifty years, this great staple of Ohio has diminished from an average yield of 30 bushels per acre to less than 15. In eleven counties of that State, which in 1850 yielded 7,531,757 bushels, there were but 4,413,207 produced in 1857, though in the interval many thousands of acres of new land must have been broken up and sowed with wheat. Virginia, Maryland, and Delaware, have ceased producing largely, while in New-England the diminution is almost incredible. In 1840, Rhode Island produced 3,095 bushels, but ten years later only 49. Within the same period, Connecticut fell from 87,000 bushels to 42,000; Maine from 848,000 to 296,000; Massachusetts from 158,000 to 31,000; New Hampshire from 432,000 to 186,000; Vermont alone maintaining her ground, by yielding 535,956 bushels in 1850, against 495,800 in 1840. In the same period Tennessee fell from 4,569,692 to 1,619,366 bushels (?), Kentucky from 4,803,152 to 2,142,822, Georgia from 1,801,830 to 1,068,534, and Alabama from 838,520 to 294,044. The whole wheat crop of the Union in 1840 was 88,513,270 bushels, while in 1850 it had risen only to 100,585,844 bushels, an increase of only 12,072,544 in ten years; of which increase Illinois, Indiana, and Wisconsin supplied every bushel, showing conclusively that all the old wheat regions were rapidly deteriorating. In the same period only nine of the Slave States increased their crops; while the falling off in the whole between was 2,200,316 bushels (3).

"Even in New-York State the falling off is very great. Lands that produced a few years back 25 bushels per acre now barely average 5. In Albany district, lands that formerly yielded from 30 to 40 bushels have sunk to 7½ bushels, and in some counties to 5 and 6 (4); so that, notwithstanding the breaking up of large tracts of virgin soil, the diminution of the produce in the old States, and the increasing consumption of the rapidly growing population, more than keep pace with it, and must continue to do so under the scourging and exhaustive system of husbandry now practiced. It appears, too, that even the productive prairie lands are not illimitable. The wheat region, according to the observation of competent persons, is limited to a zone of 10 degrees or 600 miles of latitude, and 20 degrees or 1,200 miles of longitude. Beyond these, wheat can only be grown as Spring corn, yielding a very poor return, and soon becoming exhausted. We learn, in fact, that in the Northern States such has been the failure of Winter wheat of late years, that it is now almost universally the practice to sow Spring wheat; and it is doubted whether Winter wheat has ever produced any profit to the farmer, unless covered with a coating of snow. The States of Ohio, Michigan, New-York, Pennsylvania, Maryland, and Delaware, by the large mixture of clay in their soil, constitute their fitness for growing wheat; while the entire absence of clay in the soils of the Western prairies 'foreshadows their early abandonment as wheat fields.'

"Under such discouraging circumstances, that already appear to have assumed a normal character with the common conditions of husbandry of the United States, what will be the effect of this disastrous war? One, which in its progress, will inevitably drain every industrial institution of its best hands for the army. The probability is that after the present growing crop is got in, a large breadth of the cultivated land will have to be abandoned; and should the war continue for any length of time, the produce of all kinds of "breadstuffs" must fall off, as fresh supplies of men are needed to be drafted into the armies. (See Note 2.)

"Our merchants must therefore look out for fresh sources for the supply of wheat likely to be required during the next season (5). According to all human appearance and judgment, it is next to impossible that the ensuing crop of wheat in this country (England) will near come up to the average. The deficient breadth sown—the wretched state of the seed-bed—the immaturity and consequent weakness of the seed—the ungenial state of the weather throughout the Winter and Spring—all these combine to render it probable that the deficiency will be very considerable, and that we shall want as large, or nearly as large, an importation for next year as in the present (6). Neither is there any telling what effect the war in America will have upon the grain trade in general. Insurance is certain to run high, as must freight also; for no merchant will entrust his grain in an American bottom. On the other hand, the federal States may find it necessary to lay an embargo on the export of grain, should the war continue, as has already been done at Baltimore. It is therefore, we say, desirable to ascertain what resources we can muster to make up the deficiency that may probably arise in the imports from the States. Under existing circumstances these must be curtailed, while they may be entirely cut off" (7).

NOTES ON THE ABOVE.

(1).—The various writers from whom the Mark Lane Express has derived its information have not, in all cases, been remarkable for accuracy in their figures and estimates. Some of them at least have been hobby-riders, who have conjured up guess-work statements, based upon what they supposed must have been the result in consequence of the neglect of farmers to follow out their theoretical notions of the proper mode of culture.

(2) It is an error to suppose that the present war will draw off laborers enough from the fields to materially lessen the aggregate crop of the principal wheat growing regions. It is true that, in the aggregate, fifty thousand men may temporarily exchange the plow for the musket; but on the other hand, there is still an excess of labor in many parts of the country, which will be drawn to those localities where it is needed. A multitude of others, who have in former years left the field for various manufacturing pursuits, will now, owing to the partial paralysis of manufacturing, return to farm labor. Again, the vast improvements in labor-saving implements, and their wider diffusion, will greatly facilitate farm operations; and finally, there will

be increased effort and skill on the part of cultivators. All these will doubtless, nearly if not quite, make up for any deficiency arising from the war drafts upon the cultivating force of the country at large.

(3) We do not know who this "American friend" is, what his intelligence or reliability, nor what was his object in carrying abroad such discouraging statements. It is to be regretted that the last census returns are not yet completed; but from what we know of the amount and condition of the wheat crop during the last few years, we hazard nothing in saying that the figures for 1860 will entirely reverse the conclusions arrived at in the article above. It is well known that for any one year, the export depends upon the relative goodness of the wheat crop here and in other countries. Thus, in 1790 we had an extraordinarily good yield, while in Europe the crop was a bad one, and the Continental war created an unusual demand. So in that year we exported a million bushels. In 1850 we had a poor crop, while there was a good one in Europe, and so we only sent abroad about a million bushels. A comparison of almost any year just before or after, would have given a very different result. By the same process of reasoning we might compare 1850 with the present year. Since January 1st, the export of wheat from N. Y. City alone, has already exceeded twelve million bushels of wheat, reckoning the flour in wheat, and the exports of the current year from the several ports of the United States will probably exceed twenty five million bushels, or twenty five times as much as in 1850.

(4) Here is a repetition of the nonsense that has been published and re-published, and as often refuted, for several years past. In portions of New-York State, wheat growing was temporarily at a discount, owing to the ravages of insects—not to the deterioration of the soil, as the manufacturers of specific manures have so industriously claimed. There is no well founded reason for the statements that the average product of wheat "has fallen from 25 to 5 bushels," or "from 40 bushels to 5 or 6." Nor is it a fact, as stated in the previous paragraph, that the product of wheat is now declining in the New England States. On the contrary, there has been for several years past an increase in the wheat sown in that section of the country, and in the product realized. The truth is, that during the last ten years there has been a very great waking up among the farmers of the country. Agricultural Societies, farmers' clubs, and agricultural periodicals, have spread with wonderful rapidity during that time. (The circulation of the *American Agriculturist*, alone, is to-day larger than the entire circulation of all the agricultural papers published in the country in 1850, and there are now some 40 periodicals devoted to agricultural improvement, besides the agricultural column introduced into at least 2000 religious and political papers). All these influences have developed to a remarkable degree the agricultural capabilities of this country, and the farmers are to-day ready to contract to deliver just as much wheat as Great Britain and "the rest of mankind" will agree to take.

(5) As intimated above, "our merchants" of England need be in no hurry to "look out for fresh sources for the supply of wheat likely to be required during the next season." Our farmers will be happy to supply them all they require and at moderate prices for cash and needed manufactures—provided always, that our English cousins, and quondam friends, do not interfere in our national troubles in such a way that

we shall be compelled to shut out their goods, and keep our wheat.

(6) In this paragraph our readers have a confirmation of what we have been urging upon them for months past, viz.: that the prospective foreign demand should stimulate them to cultivate every possible acre this year—raising other crops to take the place of wheat for home consumption, so that we may have an abundance of that crop to send abroad.

(7) At the time the editor of *M. L. Express* wrote, there was a prospect that the attitude of England toward this country, would sadly interfere with the shipping of wheat, and our Insurance Companies for the time being raised their rates. But the recent intelligence from England shows a better spirit on the part of the Government, and a determination to unite with other nations in driving privateers (or pirates) from the Ocean. Insurance rates have settled back nearly to the old figures; and we have no cause to fear on this score. There is no fear that our government will find it necessary to lay an embargo upon the export of breadstuffs, except where to be sent to enemies. We have enough and to spare, and we repeat, that English and other European buyers of wheat, need have no hesitation in depending upon this country for all they may require.

Transplanting in the Cornfield—

A good way to Increase Crops this Season.

This is an important matter the present year. The Western farmer, having more acres planted than he can possibly get help to properly till, will probably throw this item aside as "book farming nonsense." Let him do so, but to the great mass of farmers, West as well as East, the subject is of more importance than will appear at first thought. Let us illustrate by an example, taking a field—not at the West where land is cheaper than labor, nor in some portions of the East, where thirty dollars or more per acre are profitably expended in manure and culture—but one midway between these two extremes.

Here is a field of ten acres, which at an expense of \$100 for preparation, planting, and tillage will average 40 bushels of corn per acre—400 bushels in all—worth *in the shock*, say 35 cents per bushel. It is planted in hills $3\frac{1}{2}$ feet apart, and has, say 3550 hills to the acre, each hill affording room for four good stalks. Taking into account the loss from poor seed, rotting in the ground in a wet season like this, the destruction by birds and insects, and other casualties, it is safe to calculate that by the time the corn is four inches high, not more than three fourths of the hills are supplied with an average of four stalks, while in other hills there is an excess of stalks equal to the deficiency. If under these circumstances the yield can be set down at 40 bushels, it is evident that without any addition to the labor of hoeing, and but little addition to the cutting, the yield would be increased *one third*, if the deficient hills were filled up, giving an increase of $13\frac{1}{3}$ bushels, worth in the field about \$5, at the low price of 35 cts. per bushel which we have taken as the basis of calculation. (The average price in the Eastern and Middle States is nearer 70 cts. per bushel).

Now for the remedy. With a common trowel (or better, a curved transplanting trowel) a man can readily transfer stalks from the hills having a surplus, to those deficient, at the rate of 45 hills in an hour. By first going over the ground and making a hole with his trowel in the places where a stalk is lacking, and then lifting each

surplus stalk with a ball of earth, the corn will hardly feel the change, and ninety nine in every hundred plants will grow well, as we have proved by actual trial. A movement of the foot will suffice to fill up the hole left in a hill and to press down the transferred plant in its new position. At this estimate, two days' work will suffice to fill up the nine hundred hills. Calling the time worth a dollar a day, and the increased yield worth \$5 per acre, there is a saving of \$3 per acre, or \$30 on the field of 10 acres.

This may seem a small matter to a "large farmer," but is of too much importance to be overlooked. If it will pay on a small plot, it will pay just as well on a large one. We have estimated the entire crop worth \$14 per acre, and an increase of \$3 per acre net profit is equivalent to over *twenty one* per cent. If the yield is greater, as it *ought* to be, or the corn worth more, the cost of transplanting being still the same, the net profit is proportionally greater.

The above is only an example in which a specific number of defective hills is taken as the basis of calculation. It is evident that the estimate will hold good whether the number of defective hills be one half or more, or only one tenth or one twentieth of the whole; or whether the plot to be operated upon contain one acre or fifty. Each hill filled up by transplanting pays a good profit on the cost of the work. The plan recommended, we have tried often enough to speak with confidence, and advise its general adoption. It does not pay to leave a single vacant hill in a field—with perhaps the exception of those rare instances where so little seed has been used at first, that there are no surplus stalks for removal. We invariably practice, and have always recommended, the putting in of plenty of seed, and thinning out the surplus.

Increasing Other Crops.

What is said above of corn, applies with equal, and even stronger force, to many other crops. It is especially the case with beans and pumpkins, in the field, and with nearly all garden products. As an example, we planted some 400 hills of Lima beans the middle of May, and the seed not appearing to be very good, ten beans were planted in a circle around each pole. They nearly all came up, and so about the first of June we transplanted a portion of the surplus plants carrying them with little balls of earth in baskets, to a distant plot. It was done almost as rapidly as the new hills could have been planted with seed, and, as the result, the transplanted hills are as vigorous and as forward as those which were undisturbed. With a little care, and the use of water in the holes, transplanting can be done after plants have attained considerable size.

Pumpkins, squashes, cucumbers, turnips, beets, in short, all kinds of vegetables and flowers, are readily moved at almost any season, if care be taken to preserve a mass of unbroken earth around the roots. We are so much troubled with insects the present year, that we purpose next year to start all our squashes, melons and cucumber vines, etc., in small earthen pots, and keep them in an enclosed space, or together, where they can be guarded until too large to be attacked by insects, and then transfer them to the ground. The pots of small size costing a dollar, more or less, per hundred, may be used several years, and the expense will be abundantly repaid by the safety of the plants, and the earlier starting of the seeds, which may be secured by their use in a warm protected situation. But for the present year we shall this month practice what we advise others to do, viz.: fill up all the vacant spots by *transplanting*.

Draining—Why—Where—How.

(Continued from pages 36, 70, 105, 137, 169).

Before leaving stone drains, we must again impress upon the reader the importance of care in *covering* them. If the soil be thrown in loosely, it will surely wash down, and quite likely clog the drain at some point where the flow of water chances to be too slow to carry off the earth flowing in. In laying some 2000 feet of drains last season, which had an open passage at the bottom, and a layer of 12 to 18 inches of small stones above, we *tried* to watch the covering of every foot, taking care to have the surface of the stones leveled off with the smaller stones and pebbles, and a covering of salt hay, straw, or carpenter's shavings evenly laid over the whole, before throwing in the soil. Though the first layer of earth was tramped down, we are satisfied that it was not packed hard enough. The season being remarkably dry, there was not the aid of frequent moisture to make the settling firm. The first rain that fell, came down in torrents, and sinking rapidly into the still loosened soil, it washed in a large amount of the earth, so as to give the water flowing from the outlet a muddy appearance. The result was, that the cesspool (opening down into the sand strata) was so filled with this fine deposit of mud, as to be ineffective after a few weeks. It was cleaned out, and all went on well until toward the close of Winter, when another accumulation of clay and fine soil, stopped the cesspool again. Had the first layer of soil over the stones in the drains been thoroughly packed by beating it down at every point, only clear pure water would have filtered into the drains. Where there is a free open outlet from the main drain, the inwashed soil will usually be carried out, and less care is needed; but even then, if the drain have not a sufficient fall to give a rapid flow to the water, there is danger of obstruction at some point by the accumulation of the inwashed soil. We can not, therefore, repeat too strongly the advice to attend well to securing a good covering of straw, leaves, refuse hay, or inverted sods over the stones, and the firm even packing down of the first layer of earth thrown in. A little extra care here will perhaps save the efficiency of an expensive drain. What is worth doing at all is worth doing well.

TILE DRAINS.

This is an important department of our subject, and worthy of a somewhat lengthy and detailed discussion; for, as we have already hinted, tiles will soon become the chief, and, except in rare instances, the *only* material used for constructing drains. When good tiles can be obtained for 12 to 20 cents per rod, the less digging and less trouble in laying required, will make them cheaper than stones, even if the latter were delivered upon the ground free of cost;

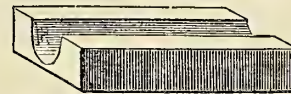


Fig. 14.—DRAIN-TILE BRICK.

while the greater effectiveness, and more certain durability of a tile drain, render it vastly superior to the best one that can be made of ordinary field stones.

Drain Tiles are tubes or pipes made of brick clay and burned hard like bricks. A common brick with a hollow through it, or a groove in one of its sides like fig. 14, is a *drain tile*. This form is a very good one, by the way, though

more expensive than the common pipe tile. A continuous series of such bricks laid one upon the other, as shown in fig. 15, will make a perfectly effective drain, and one that will last for centuries, if made of good brick clay, thor-

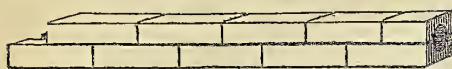


Fig. 15.—HOLLOW BRICKS LAID.

oughly burned. Where machine-made pipe tiles are not yet accessible, it will often be practicable to have such bricks made at a brick-yard.

Drain tiles proper, are tubes or pipes, made in various forms, and named *round or pipe tiles, horse-shoe tiles, sole tiles, etc.* These are now made by machines which press out the ground clay in continuous tubes, upon an endless apron, where they are cut up into the desired lengths, and carried to the drying sheds on long round-tined forks. After drying, they are burned in kilns the same as common bricks. These tiles are produced so rapidly by a good machine, that it costs less to make them than ordinary hand-made brick, though they are more troublesome to dry and burn. Owing to the small number



Fig. 16.—ROUND TILE.

of machines yet in use in this country, the lack of experience, and the comparatively little demand, the price at the yards ranges from \$8 to \$12, per 1000 for the small sizes, and from that upwards to \$15, \$20, \$30, \$40, \$50, and more, according to the size, form, etc. (In England, where the demand is vastly greater, and labor cheaper, the price is scarcely more than a fourth as much, and ere long the cost will be greatly reduced in this country.) Tiles are usually plump 12 inches in length after burning. The present price at Albany is about as follows:

Round Tiles.		Horse-shoe Tiles.	
1 1/4 inch diameter	\$ 8 1/2 1000	2 1/2 inches high	\$10 1/2 1000
2 1/4 do.	12 1/2 1000	3 1/2 do.	15 1/2 1000
3 1/4 do.	40 1/2 1000	4 1/2 do.	18 1/2 1000
Sole Tiles.			
2 inches rise of bore	\$10 1/2 1000		
3 inches rise of bore	16 1/2 1000		
4 inches rise of bore	30 1/2 1000		

The cost of collars for the round tiles is about half the price of the tiles themselves, so that we may reckon the cost of 1000 feet of pipe tiles, 1 1/4 inches in diameter, including collars, at \$12, or 1 and 1-5th cents each—equal to about 20 cts. per rod. For pipes 2 1/4 inches bore, with collars,



Fig. 17.—A LARGE OVAL PIPE TILE.

\$18 per 1000, or 30 cents per rod. The cost of other kinds per rod can be readily calculated, allowing sixteen pieces to lay about one rod.

Fig. 16 shows a ROUND PIPE TILE. Fig. 17 is also a PIPE TILE, but made oval. Both of these may be laid down end to end, as shown in fig. 18. A much better method, though more expensive at first, is to provide them with *collars*, which are simply short pieces of larger pipes slipped over the joints. Fig. 19 shows the method of laying pipe tiles with collars.

Fig. 20, is a HORSE-SHOE TILE, so called from its form. These are laid down end to end, on the bottom of the drain, usually upon the hard soil, but sometimes upon thin boards, where the soil is loose. If these are used, a better plan is

to lay them on *soles*, that is thin bricks, as shown in fig. 21. The soles add materially to the cost.

Fig. 22 is called a SOLE TILE. It differs from the oval pipe tile in having upon one side a flat bottom, formed by two flanges. These are preferable to the round tiles if the latter are used without the collars, as the sole tiles rest upon a broad base, and are less likely to be displaced. There are various other forms of tiles, such as fig. 23, a convenient form for joining two drains at right angles, etc.; but the pipe tiles, sole tiles, and horse-shoe tiles, are those most commonly used, and to these only need we give attention.

BEST FORM OF DRAIN TILES.

The horse-shoe tile (fig. 20,) has been most generally used in this country, but there are serious objections to it. If sole pieces are used, the cost is too great, and there is danger of their being moved by stones, or by having more soil



Fig. 18.—ROUND TILES LAID.

filled in upon one side than the other. They are also weak at the lower edges, liable to be broken in handling, and to be crushed in when laid, by pressure of earth and stones upon the sides. If set upon the ground, they may settle into it; and, besides, the bottom of the channel being the soil itself, the water is liable to wash out the earth at several points so as to let an occasional tile settle out of place and break up the continuity of the channel at one or more points.

These difficulties are mainly overcome in the sole tiles (fig. 22). These are strong, and lay pretty firmly, and are to be preferred to the horse-shoe form. It was claimed in behalf of the horse-shoe form, that the open bottom, and the



Fig. 19.—ROUND TILES WITH COLLARS.

seams along the edges when the detached soles were used, presented a better entrance for the water. But experience has proved that the openings between the ends of the sole or pipe tiles are amply sufficient to admit all the water that the pipes can carry away. To prove this, set two of them upright, one upon the other, as closely as possible; stop up the bottom of the lower one, and pour water rapidly into the top of the upper one. It will flow out through the small aperture between the two pieces fast enough to give a rapid downward current through the upper tile. If the ends of sole tiles, or pipe tiles be placed so closely together that the average width of the crack between them be only one-twentieth of an inch, the sum of the openings in a drain of 2 inch tiles, 100 feet long, would yet be nearly twenty times as great as the bore of the drain; or in other words, the simple openings between the tiles would, in 100 feet of drain, admit at least twenty times as much water as could flow through the 2 inch bore of the tiles. And this amount of water is very large. It has been found by experiment that in a drain



Fig. 20.—HORSE-SHOE TILE.

of 2-inch pipes, having a fall of one foot in twenty, the discharge of water through it is equal to more than 2000 gallons an hour. With a fall of only 2 feet in 100 feet, the discharge of water is still nearly 1000 gallons an hour, where the soil is so saturated as to keep up a full flow.

After considerable observation, and study of

the subject, with some experience in laying the sole tiles, we have come to the conclusion that the round pipe tiles, *with collars*, are on the whole the best form. There is so much trouble in securing a firm uniform bed, and placing the sole and horse-shoe tiles evenly together, that we



Fig. 21.—HORSE-SHOE TILES AND SOLES.

doubt whether there is often a continuous open passage through the whole length of over 1 inch in diameter, after a 2-inch tile drain is laid and thoroughly settled. The chances are, that after a time the aperture will not be so large as this. If by stones, or more earth, on one side than the other, or the settling of one end more than the other, a single tile is thrown out of place half an inch, one half of the passage is closed. When the pipes are laid with collars, a perfect, permanent passage is preserved through the whole length. A little fine soil thrown around the middle portion of each piece, between the collars, will amply support it from breaking by the pressure of the superincumbent earth. The collars over the joints save the necessity of using straw or other litter under the earth filled in. The water will find ample space for entering

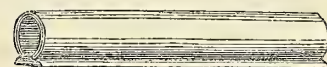


Fig. 22.—SOLE TILE.

through the spaces between the collars and pipes.

There is, then, little doubt that pipe tiles 1 1/4 inches in diameter *with collars*, will afford as good an opening, as 2 inch sole, or horse shoe tiles, and one more sure to remain permanent, while the former can be laid more rapidly, with less care in securing a smooth bottom to the ditch. The cost of the pipes and collars is about the same as the larger sole-tiles.

The cost of 1 1/4 inch pipes with collars is given at \$12 per 1000, and that of 2 inch sole tiles at \$10 per 1000. This difference would be more than made up in favor of the pipes, if to be transported far, as 1000 pipes of 1 1/4 inches, together with the collars, weigh less than 1000 sole tiles of 2-inch rise in the bore.

Fallow for Fall Crops.

The different kinds of fallowing explained—Advantage of buckwheat—to be sown on fallow land this month.

Fallow is a term so little used in American husbandry, that multitudes have no distinct conception of the operation. The prevailing practice in this country, especially in the newer States, is to work land as long as it will yield remunerative crops, and then give it over to pasture, or to grow up again to brush and wood. Plowing land to benefit next year's yield, and turning in green crops, seems a waste of the raw material not to be tolerated. In British husbandry, fallowing is well understood, and very generally resorted to. The original meaning of fallow is, *to fail*, and it is applied to land that from accident, or design, fails of a crop.

Fallows have different names given to them,

according to the treatment to which they are subjected, and the time they are suffered to lie idle. Thus, a *naked fallow* is a field plowed, harrowed, or scarified, without any seed. The object is to benefit the soil mechanically, and to subject it more completely to atmospheric influences, and thus to prepare it for future crops.

A *green fallow* is that in which the land is made of fine tilth and cleared of weeds, by cultivating peas, tares, potatoes, or some other root crop, to prepare it for grain. In this way, the land does not lie idle at all. The fallow is only a part of the rotation, in which the land rests from grass or grain. Fallows are also named from the season in which the work is principally done upon them. Thus: a *summer fallow* indicates that the land is plowed several times during this season, and a *winter fallow*, that the plowing is done just before the winter sets in, so that the soil may receive the benefit of the freezing and thawing.

The objects arrived at in this process are three-fold. First, the land has rest from a green crop. Every one has noticed the inability of land to produce the same crop for a long series of years, unless it have annual fertilizing, either from natural or artificial sources. Alluvial lands, subjected to annual overflow, bear grass or corn perpetually without diminished crops. Some of the root crops, with large dressings of manure, do well upon the same land, year after year. But these are exceptions to the general rule. Every cultivator expects to see diminished crops, unless he change them from one field to another. The fallow gives this desirable change, whether it be *naked*, or *green*.

Another object, supposed to be gained by the fallow, is the enrichment of the land. The process of nourishing plants is stopped for one season, while the preparation of plant food goes on by the decay of vegetable matter already in the soil, and by chemical changes in its mineral constituents. The rains and snows also bring their aid to the soil. If the fallow be improved by turning in a green crop, or if the land be foul, and the weeds and grasses are plowed under repeatedly, large accessions are made to the riches of the soil. The land is improved, both in its mechanical texture, and in its stores of food immediately available for future crops.

A third aim of the fallow is to clear the land of foul weeds, and grasses. As often as a crop of weeds springs up, say every three weeks, the land is either plowed or harrowed, and the weeds are destroyed. Every change in the surface soil causes new seeds to vegetate, and thus the land is gradually cleansed.

The best method of fallowing land to prepare it for winter rye or wheat, will depend upon the condition of the soil, and the circumstances of the cultivator. No rule can be given that will apply in all cases. Most farmers, when they fallow at all for the winter grains, turn over the sward early in Summer, and cross-plow and harrow when they sow the grain. If this be done, the first plowing should be deep, and the Fall plowing so shallow that it will not disturb the sod.

A better method for all soils not in good heart, is to turn in some green crop, and only harrow afterward, to keep the weeds down until the time of sowing the seed. If there is a good crop of clover upon the land, this is one of the best plants to plow under as a preparation for wheat. If the soil be not sufficiently rich to bear clover, buckwheat may be sown. This is then the best fallow crop, because it grows so rapidly, and gives such a large burden

of stalks and leaves for manure. If the sward be turned over early this month, and sown with buckwheat, it will nearly attain its full growth by the last of August, or first of September, when it should be plowed in. This plant makes the ground very mellow, and is an excellent preparation for winter grain. It will also cleanse the land of weeds if it need it, and save the labor of plowing and harrowing for that purpose.

Tim Bunker on Breastworks.

MR. EDITOR.—There never was such a stir in Hookertown before, since the days of the Revolution, and I doubt if the fathers were any more lively than our folks are. I never shall forget the Sunday when the news came that Fort Sumter was on fire. I shouldn't felt worse if Connecticut river had sunk, or Hookertown been destroyed by an earthquake. And since that Sunday we haven't talked about much else but the war. The next Sunday, Mr. Spooner preached a sermon from the text "He that hath no sword, let him sell his garment and buy one," that made every man's heart go like a trip-hammer. The next day, we had a liberty pole raised a hundred feet high, and a flag hung out, that went through the last war, with several shot holes through it. We have raised a company of eighty men, and money enough to support them for a year. Almost every family that had any grown-up boys, has sent one or more to the war. The middle aged men and old ones have formed themselves into a Home Guard, and if the boys don't put things through in good shape, we are going ourselves to straighten them out.

John came home from meeting after Mr. Spooner's sermon, and says he:

"Mother I am going to enlist."

Mrs. Bunker raised her spectacles from Scott's Bible which she happened to be reading just then, and said she:

"I can't make any objections, John. Your grandfather fought at Bunker Hill, and Mr. Spooner says this is a continuation of the same war, a war for the life of the nation. I hope you will show that the Bunker family has not degenerated."

John being our only boy, brings the thing pretty close home to us, but now that the ministers and women are raised, there can't be any backing down. There is no trouble about getting troops, and money enough to support them. They all want to go. You see, a man might as well emigrate at once, as to have the women agin him.

But I have been thinking that we are in danger of leaving an enemy in the rear, that we have not been calculating upon. I have always noticed that excited people are not the best judges of expediency. Many a brave general has been conquered by an enemy in the rear. In going to war, you see, quite as much depends upon having the inner man fortified, as upon having breastworks between us and the enemy. You see, a soldier is a sort of engine, that won't go without fire, any more than a locomotive. And you have to supply the fire, wood, and water, three times a day pretty regular, or your army of soldiers is no better than a flock of sheep. Men can't fight on an empty stomach. You see, this fighting is a good deal like mowing, or rather like pitching on a load of hay, when a thunder shower is coming up, and you have only twenty minutes to get the load on, and to get it into the barn. There is nothing like a well fed stomach to do sharp work on; even a good

conscience and a good cause don't amount to much without it.

Now you see, the enemy we are like to leave in the rear, is short crops. There may be no danger of famine in this country, where land is so cheap, and where so large a part of the people are farmers. But there is danger of short crops, and a very high price for all kinds of provisions and breadstuffs, which occasions a great deal of suffering among the poor in the cities and villages, and throws every thing into confusion. And it seems to me, that this is the enemy that farmers are particularly called upon to guard against.

We have got material enough for soldiers in our cities and villages, merchants and mechanics who are thrown out of employment, or whose profits are very much reduced by the disordered state of business. While they are rearing the breastworks outside, we must take care of the breastworks within, and see that they are well fortified with beef, pork, mutton, bread, potatoes, etc. There isn't quite so much glory attached to this kind of fortification, as there is to gunpowder and musketry, but there is quite as much virtue in it. You see, powder and ball are not worth much after the pork and beef fail. Many more forts have had to surrender for want of provisions, than for want of powder.

Now, the women and young folks don't see this so clearly as men who have smelt the smoke of battle. They go in for the fuss and feathers, and worship the epaulets and military caps, and think these are going to save the country. The real battle field will be in the rear of the armies, away down in the Gulf States, and north of the Ohio and the Potomac, and the steel that will do most execution is that which furrows the bosom of the peaceful earth, rather than human bosoms. In modern times the plowshare is the most potent of all military weapons, for it supplies gold to the military chest, powder to cannon, and rears those inward fortifications without which, earth works, fosses, and granite walls are useless. Every wheat field with its plumed heads is a regiment of soldiers, and every stalk of corn, with its golden ears upon the fields of peace, is a sentinel doing duty for the country.

This is about the pith of public sentiment up here among the old folks, and I send it down for what it is worth. It struck me that there was something in it worth considering, when every man is anxious to get off to the war. It will never do to have an enemy in the rear. You see I go in for breastworks and fortifications, especially for the inner man.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, June, 1861.

New Varieties of Wheat in Pennsylvania.

In a recent letter to the *American Agriculturist*, Dr. J. Henderson, of Mifflin Co., Pa., states that the white varieties of wheat have of late years been so injured by insects, that a hardy productive red wheat is a great desideratum. The "Mediterranean" varieties have been the chief reliance for a few years past, but they have degenerated so much as to produce only half a crop in most places. He has tried wheat from England, France, Italy, Turkey, and Algiers, but has found them all either too tender for the severe winters, or too late to escape the insects or rust. Of two Patent Office parcels of beautiful wheat from Sweden, not one kernel germinated. The Soule's white wheat, obtained from

Rochester, N. Y., several years ago, is still cultivated, and generally with good results when grown upon the southern slopes of mountains.

For the American Agriculturist.

Buckwheat.

Buckwheat for Food—For Manure—Two Crops in one Season—A Crop of Hay and one of Buckwheat on the same ground every year.

This plant, (*Polygonum fagopyrum* of botanists,) though nowhere relied upon as a leading crop, is extensively cultivated in this country. Its period of ripening, about seventy-five days, is so much shorter than that of the cereals, that it is often available where these fail. If the corn rots, or is destroyed by birds, buckwheat can be sown when it is too late to replant the corn. It is also frequently sown after the winter rye and wheat come off, when, from any emergency, the farmer wishes to take two crops from his land in a season. It is particularly well adapted to a year like the present, when we want to produce all the breadstuffs possible with our manure and labor. Though not a cereal, botanically, it is an excellent substitute for grain, and is quite easily raised. It is perhaps a failing of the plant, that it has such a reputation. For it is usually turned off upon the poorest land, grown without manure; and results, not infrequently, in making both the land and the owner poorer.

The time of sowing is from the middle of June to the middle of July, according to the climate and the circumstances of the farmer. If sown too early, it is found that it does not head as well. If too late, it is liable to be cut off by the frost before the grain is fully matured. Where killing frosts usually make their appearance the last of September, the seed should be sown from the first to the tenth of July. In milder climates, it may be deferred a few days. The yield will depend quite as much upon the condition of the soil, as upon the climate. Some sow habitually upon light sandy land, without manure, and are content with eight to ten bushels; while others take a better class of lands, and get from thirty to fifty bushels to the acre.

The crop delights in warm sandy loams, easily wrought, but will grow readily where any of the cereals will. It shows the effects of manure as readily as any plant. Peruvian guano seems to be a specific for it. We have seen astonishing results upon very poor, worn out land, with a dressing of this fertilizer. And if one has to purchase manure for this crop, there is probably nothing that will give so good immediate returns. A bag of 150 pounds per acre is a common dressing; but if the land has been very hard used, twice that quantity will be better economy.

In some of our farming districts, it is quite common to use buckwheat for turning in as a green crop. We have seen very fine crops of rye raised *annually*, for a succession of years, by simply plowing in the stubble as soon as the rye was off, and sowing buckwheat to be plowed in for manure when in full blossom. The gentleman who pursued this method, claimed that there was increased productiveness every year. Buckwheat does not return so large a mass of vegetable matter to the soil, as clover, but it grows much more rapidly, and can be used where clover can not. If necessary, two crops of it can be turned under, in a season.

Buckwheat is also an excellent cleansing crop. Many farms have received such slovenly tillage,

that they are heavily stocked with weeds, charlock, thistles, daisies, and many other troublesome plants. The expense of cultivation is in many cases doubled by these weeds, and it becomes a matter of great importance to get rid of them. The late plowing for buckwheat in mid-summer, turns under a crop of weeds before they have time to mature their seeds, and thus one generation is disposed of. A few crops of buckwheat in succession will clean the land.

But the main thought of the present year will be to increase the store of food for man and beast. Buckwheat is largely used for both purposes, in the Eastern and Middle States. Some farmers, who do not have it upon their tables, use it ground up with oats and corn, as provender for their horses and swine. In popular esteem, it stands between oats and corn, in its value for making muscle and fat.

In sowing buckwheat, it is a common error to seed too heavily. This plant must have room in order to make good heavy grain. Sow from one-half bushel to a bushel to the acre, according to the quality of the land. The richer the land, the less seed. CONNECTICUT.

For the American Agriculturist.

Does it Pay to Exchange Seed?

MR. EDITOR.—Almost everybody, and everybody's echo, that is, the newspapers, advise farmers to change their seed often—to get that which has been raised at a distance, even if it be of the same variety, and grown on no better land. If we can always be sure of getting seed which has been raised under more favorable circumstances, and brought to better maturity, I can understand how a change will be beneficial; but I don't exactly see how a mere difference of locality will improve seed. It may be that corn or wheat which has grown in a northern climate will have a tendency to ripen earlier than the same variety produced in a southern region, and there may be an advantage in sending North for wheat on this account; but some contend that it will do great good to get new seed even in the same latitude, only so that it be not grown in the same neighborhood.

One man says that sowing seed from the same farm every year, is like breeding in-and-in, and the race must run out. But that can't be true, for seed don't breed like cattle. When wheat is taken from Massachusetts to Ohio, it is not crossed upon Ohio wheat, but it gives its own increase. Suppose two farmers, one in New-York, the other in Illinois, should exchange seed wheat, would both gain in the excellence of the product? According to my ideas, other things being equal, he would get the best of the bargain, who received the best seed.

I knew of a man who raised his own seed wheat for more than twenty years, and his crops improved during the whole time. Occasionally he sowed a field with wheat brought from a distance, by way of experiment, but it never proved so good as that raised from his own stock. The secret of his success was the pains he took every year to select the best part of his field for seed. This was always done before harvest; the plot was staked off and left to ripen fully, then it was threshed with a flail as soon as drawn in, and carefully stored by itself. If some careless man, who had taken his seed haphazard from what happened to be left in the bin at sowing time, should exchange with one who had taken such pains to select seed year after year, no doubt he would insist that change was

of great benefit to him, and it would be: but it would be better for him, and for every other farmer to improve his own seed, rather than run the risk of finding somebody to do it for him.

JONATHAN.

Sorghum Notes.

O. N. Brainard, of Linn Co., Iowa, who has had much experience in the culture of sorghum, and manufacturing it into both syrup and sugar, sends a lengthy and interesting account to the *Prairie Farmer*, from which we make extracts.

Mr. B. would save seed from a patch grown for the special purpose, distant from corn or any other plant of the same nature, with which sorghum can possibly mix. Select the ripest heads, tie in small bundles, and hang them up during the Winter. Clean out the richest seed and tie in bags one week before planting. Put these bags in warm water, over night, and bury in earth the next day, until sprouted. Plant on rich, sandy ground, plowing deep and harrowing well. Put in rows 3½ feet apart and quite thickly in the drill, cover the seed with a harrow, and roll at night what has been planted during the day.

As soon as the young shoots can be seen, knock out the front tooth of a horse harrow, and go over the piece, the team walking astride the rows. When the cane is 6 inches high, cut out the surplus shoots with a hoe, leaving 3 or 4 to the foot. After this, working twice with the cultivator or plow will be sufficient.

In cutting up, strike so as to leave a pointed butt for the crusher to take hold of. The crop should be cut the latter part of September, before heavy frosts. If well shocked, with the leaves on, it keeps sweet until Winter. In trimming for the crusher, cut off the two top joints, and throw away; the juice from that portion is bitter. For *sugar*, cut the canes in the middle, and use only the lower half. The other will answer for syrup.

A good crusher and boiler are absolutely indispensable. Mr. B. used a substantial, upright 3 roller iron mill, manufactured at a cost of \$85. The large roller was 18 inches in diameter, and 1 foot long. The two smaller ones, 9 inches in diameter, with cog wheels upon the upper ends. With two horses he extracted 120 gallons juice per hour. Cook's Patent rocker evaporator, 6 feet wide and 18 feet long, was used to reduce the syrup. When the mill is started in the morning, fire is lighted under the evaporator, which is set on a level. After boiling, say 20 to 30 minutes, it is lowered, and a steady stream of syrup runs from the lower end. No juice is left over night, and every thing is kept clean. The cane is fed, butts first. Keep the evaporator at such an inclination that the syrup shall take about 30 minutes to make the passage. The juice is poured in the upper end through a tub filled with straw, to strain out bits of cane, and the scum is removed during the boiling.

For *sugar*, boil until the syrup will draw out like hair between the thumb and finger, and set it away in a warm place to grain. When grained, put it into a vessel with small holes in the bottom, to drain off the molasses.

Mr. B. kept a memorandum of the different soils on which cane was grown, amount per acre, value of crop, etc., from which we condense the following:

"Began to crush, Sept. 6. Set the evaporator level, let on the juice, started a brisk fire, and in 22 minutes lowered the evaporator and pulled the plug. The syrup commenced to run and

thick and clear. It was passed through a large milk strainer into open kegs, so as to cool before barreling. Product from 60 rods of clay ground, planted in hills, 113 gallons syrup with cane taste—large growth and seed half ripe.

Sept. 13—made 61 gallons first quality syrup from 30 rods of high hazel ground. This would have been the prize piece, had not a tornado destroyed about half the cane before gathering it.

Sept. 14, 15, 16—made 250 gallons syrup from 1½ acres. Soil, a mixture of sand and clay; cane in hills 3½ feet each way, 4 stalks in hill, well tended and suckered. A portion of the syrup sugared in 6 days, although the cane was not cut in two for that purpose.

Sept. 20—made 80 gallons nice honey syrup from 40 rods of cane drilled in. Hazel ground, poorly tended and injured by the tornado; was crushed with leaves on. Oct. 1 to 8, made 650 gallons good honey syrup from 3 and 2-5th acres, black sandy soil, with some oak trees standing.—Oct. 26, made 41 gallons best syrup of season, from cane cut in Sept., and covered with straw; also 56 gallons from the same piece of cane cut after freezing. The molasses was sour and poor.

Nov. 22—made 88 gallons very thick, light colored, and excellent syrup from 51 rods cane cut in Sept., set in large shocks, like corn, with leaves on; in which state it was crushed. The soil on which it grew was a sandy prairie.

Nov. 23—made 38 gallons poor syrup from cane grown on low, rich, prairie soil. Boiled 18 gallons juice into one of syrup. The Chinese cane should never be raised on such soil.

Mr. B. says about 2,000 barrels syrup were produced in his county the past season, worth \$40,000 at \$20 per barrel, and that it pays well at that price to cultivate sorghum. The whole apparatus for manufacturing 200 gallons syrup per day, should cost about \$175.

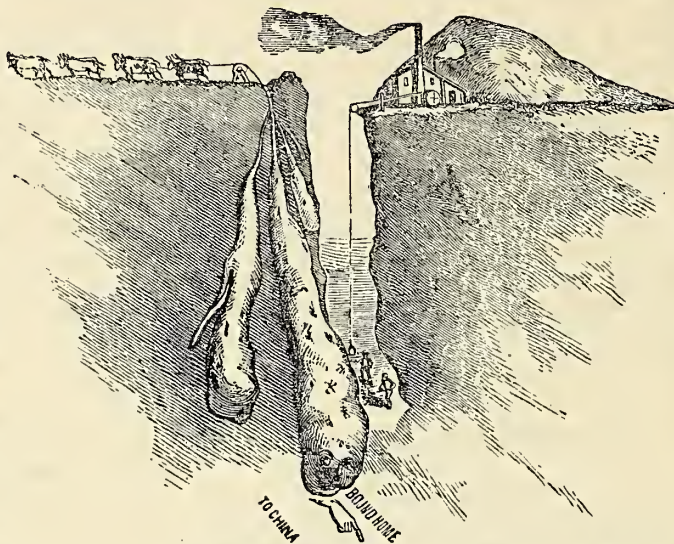
Price of Potatoes in New-York City for Seven Years Past.

The following table, carefully prepared for the *American Agriculturist* by Mr. Henry B. Walker, a large dealer of this City, will be found interesting and useful. The statistics have reference to the best potatoes at wholesale prices; it will be noticed, that the price has fallen every year, with but one exception, since 1854. This is owing in part to greater facilities for transportation, which have made more distant localities accessible to this market, and thus largely increased the supply. But it is without doubt largely due also to improved culture, by means of which greater quantities have been raised in the vicinity of New-York.

AVERAGE PRICE PER BUSHEL.									
	'55.	'56.	'57.	'58.	'59.	'60.			
Jan... \$1 07	\$1 22½	\$0 72	\$0 97½	\$0 95	\$0 52½	\$10 45			
Feb... 1 18	1 25	0 72	1 02½	1 00	0 57½	0 58			
Mar... 1 12	1 25	0 80	1 00	*1 08½	0 54	0 50			
April... 1 30	*1 43	0 62½	1 35	0 68	0 55	0 52½			
May... 1 44	1 26	†0 60	*1 41	0 77½	*0 82½	0 65			
June... 1 50	1 33½	†0 60	1 25	0 58	0 68	0 60			
July... 1 09	1 00	*1 00	0 72	0 55	0 70	0 59			
Aug... 1 50	†0 62½	0 69	†0 65½	0 61	0 47	0 52½			
Sept... 1 22	0 69	0 69½	0 83	0 57	0 50	0 63			
Oct... 1 06	0 69	0 75	0 8	0 57	0 66	0 45			
Nov... †0 39	0 69	0 81	0 95½	†0 52½	0 60	*0 63½			
Dec... 1 02	0 65	0 91	0 95	0 55	†0 45	0 62½			
Avg \$1 22	\$1 01	\$0 75	\$1 00	\$0 72	\$0 59	\$0 56			

* Highest price; † Lowest price during the year.

WHAT OF THE CHUFA?—A few years since the Chufa, or "earth almond," (*Cyperus esculentus*), attracted considerable attention. The nuts, or tubers, were prized by some as a substitute for chestnuts, and others claimed that they would be very valuable as feed for swine. The ground was to be stocked with the tubers, which multiply rapidly, and the hogs were to do their own harvesting. Recently little has been heard of them. Is any one growing the crop? If so, we should like to hear results.



The Dioscorea Batatas Homeward Bound.

The long time readers of the *American Agriculturist*, may remember the above humorous illustration of the habits of the Dioscorea Batatas or Chinese potato, published in Vol. XV, (and now republished in response to numerous requests.) It represents a cluster of the plants which have started for home, China, by the shortest route, downward through the soil. The idea was suggested by our own experience in trying to dig those we had planted, and by the account given by a subscriber, who expended \$10 for a dozen "bulbs" (bits of skin), and after vainly waiting a long time for their appearance above ground, wrote to us to inquire, if "they had not started for home." This gentleman has just informed us that in digging a deep drain in the ground where he formerly put the plants, at the distance of five feet below the surface the workmen came upon a singular looking object, of vegetable origin, flattened out six or eight inches in extent, and about an inch thick. Upon examination it proved to be the long lost Dioscorea, which had been industriously growing downward since 1856! It had met with a large stone, and flattened out in trying to grow around it. He had not noticed the leaves above.

Destroying Ground Squirrels.

In some part of the West, and especially in California, the ground squirrel, or "prairie dog" is very troublesome to the corn and wheat fields. Phosphorus is generally used to poison this pest, but as sometimes prepared, it ignites from the heat, or by the friction when bitten, and the ground being dry, large tracts are often burned over. A late number of the California Farmer, gives the following plan for preparing it, which is safe, and successful in its effects:

Dissolve a stick of phosphorus two inches long, in a gallon of warm water, then stir in flour, or shorts, to the thickness of a batter, and

add wheat until the mixture is quite stiff, stirring it to coat the wheat. Scatter small quantities of it about their "towns" or holes. It will not fire, but will kill. The squirrels eat it better if a little sugar be added. The writer cautions those using the mixture against allowing hogs to get at the mixture, or the dead squirrels.

The Rye Fly (*Cecidomyia Secale*?).

In August of last year Mr. Daniel Steck, Lycoming Co., Pa., sent to the office of the *American Agriculturist* several stalks of rye, showing the work of an insect whose ravages we had not previously seen noticed. Fleshy excrescences appeared on the body of the stalks immediately above the joints, in which were encased the larvæ of a minute insect. The excrescences appeared to be formed by an abnormal growth of the stalk, in the same manner as galls are formed on leaves and twigs of trees and plants, in consequence of injury to the vegetable cells. Mr. Steck has continued to observe the insect, and recently forwarded additional specimens, with the following notes on their habits, which we copy as written.

"The full grown rye fly makes its appearance about the first of May. It somewhat resembles the Hessian Fly (*Cecidomyia destructor*) in size and general form. This fly deposits its eggs, which are of a yellowish color, the latter part of May, in the upper channels of the rye leaf. It soon hatches, producing a very small worm, which works its way down between the leaf-sheath and stalk until it arrives in the vicinity of the joint, where its presence, from some cause, produces a protuberant excrescence, in which the larva becomes enveloped. This interferes with the development of the grain, and also weakens the stalk, often causing it to crinkle and fall to the ground about the time of blossoming.

The larva attains its full size about the time the circulation of the juices in the stalk ceases. It remains in this state until the following Spring, without further change; but as soon as warm weather commences 'a change comes over the spirit of its dreams,'—if it has any—and with its mandibles it gnaws or bores through its strawy prison, and issues forth a perfect insect without moulting, which is not the case with most insects passing from the pupa to the perfect state."

The specimens received, consisted of joints of the straw grown last year, on which the protuberances were fully developed; from six to ten, and in some instances fifteen of them being clustered in the space of two inches above the joint. Mr. S. wrote that these contained the larvæ, which had been retarded from changing to the perfect insect by being kept in a cool place. But upon opening the prison house of one of the insects, out he came, full winged, active, and perfect in every respect. Several have since emerged unaided, by opening an orifice through the straw. The change from larva to pupa, and to imago or perfect insect, therefore takes place within the cell which has grown for his accommodation. The fly is smaller than a mosquito, black, and in form bears some resemblance to the Hessian Fly (*Cecidomyia destructor*), as stated above. An engraving of the latter insect appeared in the *Agriculturist*, Vol. XVIII, p. 240, (Aug. No.) Mr. Steck has named it *Cecidomyia Secale*, or Rye Cecidomyia. It may be recognized by Entomologists as a species already described, though we are unable to find it particularly noted in any work to which we have access.

If the insect should spread as rapidly as the

midge and others of like species have done, immense injury will result to the rye crop, which has heretofore escaped in a great measure from harm by insects. We know at present of but one treatment that promises to stop its ravages, which is, to burn all the straw, including the stubble of infested fields, and thus destroy the insect in its Winter quarters.

The Rot in Sheep.

A western subscriber asks for information about this disease, which he thinks has affected some of his flock, though the symptoms described, may result from some other disease. We are not aware of the prevalence here, of the disease known as the Rot in Europe; there, particularly in England, it is a terrible scourge. According to Youatt, a million sheep die annually of this disorder in the British Islands. Spooner thus describes the symptoms: First, a want of liveliness, with paleness of the membranes generally, to which may be added a yellowness of the *caruncle* or fleshy excrescence at the corner of the eye. The sheep in a few weeks begin to shrink, and become flaccid about the loins. By pressure about the hips at this time, a crackling is perceptible; the countenance looks pale, and upon parting the fleece, the skin is found to have changed its vermilion tint for a pale red, and the wool is easily separated from the pelt. As the disorder advances, the skin becomes dappled with yellow or black spots. To these symptoms succeed increased dullness, loss of condition, greater paleness of the mucous membranes, the eyelids becoming almost white, and afterward yellow. This yellowness extends to other parts of the body, and a watery fluid appears under the skin, which becomes loose and flabby, the wool coming off readily. The animal occasionally dies shortly after becoming affected, but more frequently the course of the disease extends to from three to six months, the sheep gradually pining away.

One indication appears to always attend a fatal case of rot, viz: the presence of singular looking worms, named flukes, in the liver. These parasites are from three-quarters of an inch, to an inch and a quarter in length, and from one-third to half an inch in greatest breadth. There is a difference of opinion as to whether these worms are the cause or effect of the disease. Youatt says: "To a certain degree both; they aggravate the disease, and perpetuate a state of irritability and disorganization which must undermine the strength of the animal."

The rot in sheep is induced by wet seasons, or confining the animals on marshy pastures. The continued rains in England last year, were followed by disastrous increase of the disease, and investigations of its nature and the proper treatment, are occupying the attention of some of the leading scientific agriculturists there. The preventive as indicated by the above facts, is the proper selection of pasture grounds; and if the disease is induced by unfavorable seasons, then a mixed diet of hay, beans, or peas, with plenty of salt, must be resorted to. Although, as remarked above, this disease does not appear to have prevailed to any extent in the United States, it may have been induced in localities subject to the causes described, and it is well to understand, and as far as possible guard against its approach.

MEAT FOR HENS.—It should be kept in mind, that animal food is at all times of the year a stimulus to hens to lay. When they have abun-

dant range, they gather insects of various kinds; but even then, and especially when cut off by confinement, or by cold weather, from this source of animal food, it is well to give them waste offal from the kitchen, bits of fresh meat, etc. Scrap cake from the hog-killing and oil-pressing establishments, is a cheap source of supply. Fresh bones, broken into small pieces, are greedily devoured, and much relished by hens at all times, and also promote their laying. These furnish the materials of which egg-shells are made, and without supplying something of the kind, it is as unreasonable to expect the hens to furnish their manufactures, as it was in old time to demand bricks to be made without straw.

For the American Agriculturist.

Hair Oil for Horses.

Amid the thousand and one preparations for improving the growth of hair, and making it fine and smooth, we have long wondered that no receipt has been devised for improving horse hair. Why not? tell us why not, Dr. Youatt, and Dr. Dadd, or any others of the profession. But at length, an end has been put to our inquiries: the horse is now to be provided for, as well as his rider. The oil has not, to our knowledge, found its way into the market, bottled and ready for use; but a receipt for making it has been published, so that every one can furnish himself with the invaluable article. Did we know to what man or journal to give the credit of this discovery, full acknowledgment should be made. Judging from the learned terms used, we think it must have originated at some great University. No common farrier could have conceived it. Well, here is the formula, free as air, just as we find it. The horse-Latin in which it is couched will be easy to translate:

R (take)
 Brushus et curricombus ad libitum.
 Eibow greesus quantum sufficiens.
 Blanketisus first ratus.
 Stabulus (in Winter) warmus.
 Fodderus never say diet-us but mealus et oatus.
 Exercisus non compromisus.
 The effect will be:
 Coatus shinus.
 Appetitus, wolfitus.
 Muscularitus, two-forty-itus. **HORSE'S FRIEND.**

[The writer of the above can not have read the previous volumes of the *Agriculturist*. The recipe was published in Vol. XV, p. 248, and there credited to the American Veterinary Journal. It is good enough, however, to bear repeating, and we can warrant it to contain no injurious ingredients.—Ed.]

The Tables Turned—Sending Blooded Stock to England.

It seems much like sending "Coals to New-Castle," for our breeders to ship Short Horns to their original homes, but this is actually being done. Since the June *Agriculturist* went to press, six animals of the famous Thorndale Herd have been shipped from this City to leading English breeders, in fulfilment of engagements entered into by Samuel Thorne, Esq., during his recent visit to Europe. The animals comprised four bulls, viz.: 2d, 3d, 4th, and 5th Duke of Thorndale, and Thane of Oxford, and the two heifers 4th Lady of Oxford, and Hero of Thorndale.

This is the beginning of what many think will grow into a regular trade, as it is well known that some of the finest English Short Horns have been bought by our own breeders at enormous prices, and such orders as the above are evidence that they have not depreciated here.

The combined herds of Messrs. Thorne and Morris, now owned by the former, are acknowledged to be superior to anything else in this country, and not inferior to the finest herds of England; but it is with regret that we announce the departure of such fine animals as are now sent abroad. They ought to go west—not east.

The World's Fair of 1862.

Immense Structure, Building for the Great Industrial Exhibition of 1862.

We learn from the Gardener's Chronicle, that the plan of this magnificent building is completed. The structure itself is to be quite different from the one erected in 1851. It will be much larger and more imposing in its interior, while from without, its aspect will be of remarkable magnitude and grandeur. Externally the building will be 1,200 by 700 feet. The average height is 100 feet, while the two iron and glass domes, 60 feet diameter at the base, will rise 250 feet, and will be the largest domes ever built. The guarantee fund subscribed for the building and exhibition amounted to £250,000, (\$1,250,000,) up to March 15th. The time fixed upon for the exhibition is from the first of May until the 15th of October. It is located near the site of the former Crystal Palace, at Kensington, within the limits of the city of London. We hope that American industry and ingenuity will be largely represented, though our home troubles will greatly interfere with the interest that would otherwise be taken in the enterprise.

Honor to a Royal Agriculturist.

The Mark Lane Express of recent date says: "Our readers will learn with real satisfaction that his Royal Highness, the Prince Consort, has consented to act as President of the Royal Agricultural Society for next year, when the Great Show will be held in the Regent's Park. This is on either side no empty compliment, but a really auspicious omen for agriculture. The advance of the art well merits such countenance, and the Prince's own tastes point at once to him as the proper patron of such an occasion as the Show of 1862 promises to become. The world already knows of his Royal Highness' success as an exhibitor of stock; but it is not every one who has had the delightful privilege of inspecting the Park Homesteads at Windsor, or of seeing and hearing how thorough an interest both her Majesty and her Consort take in the different phases of the Home, the Norfolk, and the Flemish Farms. With an enlightened and enlarged mind well fitted to his position, the Prince gives everything in any way worthy of his attention a fair trial. We see this alike in the breeds of stock he cultivates and the different descriptions of machinery he employs. There are those first favorites, the little Devons at one farm, the Herefords at another, and the Short Horns at a third; with, moreover, an especial place for the dairy. The day on which we had the pleasure of going round, there was a new grass-cutter on trial; while one of Smith's steam-cultivators has been at work at Osborne, and another of Fowler's at Windsor. Both the Queen and the Prince make it their care to see such inventions well tested, and the Royal pair are equally zealous in marking the improvement of the animals. The Prince is known to be a capital judge of farm stock, and there is not a beast on his domain but that he has the history and value of, at his command."

For the American Agriculturist.

Experience in Cheese Making.

Diogenes says of Mrs. Homespun, that she knows of no way to make a cheese, save from pure new milk, and certainly "where ignorance is bliss 'twere folly to be wise." We made over a tun of cheese last year, and made it all from new milk, for economy's sake.

When I first commenced making cheese some year's since, I used to skim the night's milk for family butter, and thought I was a very saving woman; now I stir the cream into the cheese vat every morning, having first heated it up in a kettle by itself. And now I propose to give four reasons why it pays better to do so.

1st.—The cream will give me more pounds of cheese than butter. 2nd.—The cheese will taste better. 3d.—In seasoning, the cheese will hold its weight better. And last and not least, it brings from one to two cents a pound higher in market. The greater part of our cheese sold for 10 cents per pound last year, which was the same price as for butter, except in the Fall, when the latter sold for a shilling a pound. Roe's Patent cheese vat is a great saving of labor. We had it last year for the first time, and now we would not be without it. The newspapers say they want no "puffy" cheese in the New-York market, and as far as my experience has gone, it is want of salt that makes cheese puffy, while too much salt makes the cheese hard or "white oak."

We use the ground dairy salt, a large tea-cupful to twenty pounds of cheese, but if the curd be soft, it will take more, owing to the whey that will run out and carry part of the salt with it. We press cheeses 48 hours in a self-pressing apparatus, cover them *all over* with cloth, and in the time of flies put a little Cayenne pepper in the whey butter oil with which we rub them.

The flies are the great bugbear that prevent Illinois women from making cheese. They are much more prolific here than in the East, but if the last two items I have mentioned, are attended to, and the cheese turned, oiled and rubbed every day for a month, and every second day afterward, there will be no trouble. Last year we made enough oil from the cheese whey for kitchen lamp use, besides cheese curing. When drawn off from the vat, let it stand twenty-four hours in the whey tub, skim it as you do cream, and churn twice a week. The butter is put in an iron pot and boiled down, taking care that it does not scorch. When sufficiently cooked, a thick scum will have formed on the top, which must be skimmed off, and the oil poured into a stone jar for future use.

Carroll Co., Ill.

M. J. STEPHENSON.

Improvement in Cheese Making.

We find the following extract in the Dairy Farmer, without any indication of its origin, and do not therefore endorse it, but give it as suggestive of experiments which may be valuable. Recent investigations prove that a large portion, in some cases as high as one third, of the cheese is wasted in the process of manufacture; and any method which promises to save this waste, is worthy of attention. The writer says:

"In June, 1859, I finished a few cheeses after the following manner: When my curd was scalded, (I practice thorough scalding,) I threw into the vat about four quarts of salt—sometimes only three for a cheese of 50 to 60 pounds, stirring thoroughly. Those which went into the hoop before being well cooled off, acted badly;

but when I took time and means to cool sufficiently, the cheeses were fine. On the whole, I did not like the process and abandoned it.

In 1860, I commenced again, changing the programme as follows: After scalding, I drew off the whey, leaving just enough to float the curd, and began to cool off, hurrying the process by pumping in cold water and changing often. Then, to a curd of say 60 pounds, a little more or less, I threw in sometimes three and sometimes four quarts of salt, and stirred till well cooled—then drew off the salted whey, and threw it on the compost heap—put the curd to press, and pressed rapidly and thoroughly. And now for the result. I lost from my whey tub about three pails of whey and some salt. I gained in this, that my dripping tub under the press never had a particle of cream rise upon it, and in having a cheese that gave me no trouble in curing, and which, when sent to market, sold for the very highest price, and called forth the unqualified approbation of dealers, as being perfect in all respects—fine flavored, very solid, (not porous,) and very fat.

And now let me talk to the experience of dairymen. In the old fashioned way of breaking up and salting a curd, more or less bruising of the curd to break the lumps, in order to get the salt evenly distributed, is necessary, and when put to press, the white whey runs off freely—in other words the cream runs off, and of course with it the richness of the cheese, and more or less of its weight, and if the curd is very dry, you are liable to get your cheese too high salted, and, if not, the reverse.

My experiments clearly prove that a curd salted in whey, will retain no more salt than it needs, and that as every particle comes in contact with the brine through the operation of stirring, no bruising is necessary. Whether this is the philosophy of it or not, I am not chemist enough to determine, but I do know that if there is no discharge of white whey, or cream, it is retained in the cheese, adding to it both richness and weight as a remuneration for the extra salt and the waste."

Advantages of Broad Tires for Carts.

These are made from four to six inches in breadth, and, usually, of somewhat thinner tire, to save weight. The wheels have to be a little heavier to accommodate the tire. The advantages over the common narrow tire are several. Used upon the highway, they tend to fill up the ruts made by smaller vehicles, and help keep the road track in good repair. So highly is this advantage esteemed by some turnpike companies, that they exempt all broad tired carts from toll. If they were generally used, they would act upon the road bed very much as a heavy roller, keeping it solid, and preventing washing, to some extent.

The broad tire also diminishes the resistance made by the road bed or soil over which the wheels pass. Upon a perfectly solid bed, like a plate of iron, or iron rails, this resistance is entirely removed, or, at least, brought to its minimum. But upon a common road, it seriously interferes with their progress. The wheels sink into the dirt, more or less, according to the weight of the load and the hardness of the road. Upon meadow lands, the resistance is still further increased by the softness of the soil. The broader the surface of the wheel, the less it will sink into the soil, and the more easily the load can be drawn. It is not necessary to state the precise ratio in which this resistance is di-

minished, to make it apparent. Other things being equal, a team will draw a heavier load with a broad tired cart, than with a narrow one. If this advantage amounted to only a hundred pounds to a load, it would soon pay for the extra cost of the tire.

It also saves the cutting up of meadows. More or less carting is necessary over fields in grass, at seasons of the year when ruts will be made with the narrow tire. This not only mars the beauty of the field, but diminishes the yield. The roots of the grasses are torn and destroyed and the track of the wheel is generally barren. With the broad tire, little if any damage is done. It also enables the farmer to use the cart on soft or swampy lands that would be impassable with narrow tire. It may be true that these wet lands ought to be drained, but they are not, and will not be for some years. While waiting for this, the broad tired cart is needed.

CONNECTICUT.

Lime as a Manure—Soil Analysis.

Among the numerous responses to our lime questions, we have received a very good address delivered before the Farmers' Club of Chester Co., Pa., by Geo. A. McCall. The views of Mr. M. are in the main correct and useful. He, however, makes a chemical error in stating that the peroxide of iron is hurtful to vegetation, and that lime withdraws a portion of its oxygen, producing the protoxide, which is "perfectly harmless to vegetation." The contrary is the case; the salts of the protoxide are soluble, and when absorbed by plants, are poisonous; but the peroxide is insoluble, and not injurious. Nor will lime reduce the peroxide to a protoxide. Lime, as he states, is an oxide of calcium; but only one equivalent of oxygen unites with one of calcium, and that it already has in the form of lime. We also differ from Mr. M. as to the value of having a soil analyzed, "at little expense and trouble." An analysis of a soil costing less than \$30 to \$50 is of little value; indeed, after much practical study of the subject, we doubt the utility of any soil analysis as a guide to farmers in the application of special manures. As an aid to scientific investigation, analyses of soils, manures, and plants, are valuable.

Improvement of Pasture Lands.

The first inquiry a skillful physician makes of his patient, is: "What are your symptoms?" Then, the peculiarities of constitution are noted, and the treatment decided upon. A quack cares little for symptoms. His panacea covers every case. "Buy my pills," is his one prescription. Those who have but one course to recommend for treatment of failing pastures, resemble the quack doctor. One man insists that plowing is the cure-all. He argues that the grasses "run out" for want of seed, and he directs to cultivate with hoed crops a year or two, followed by Winter grain; then re-seed, and all will be right again. But let him visit some sections where natural pastures abound, fields which have yielded luxuriant grass crops for scores of years without the harsh surgery of the plow, and he will find his theory "run out" much sooner than the grasses. Another authority urges the water cure. "Turn on the adjacent stream," he says, "flood the land repeatedly through the season, and grass will grow while water runs." All very well, doubtless, in some places, on well drained ground, but productive only of coarse rank growth of undesirable sorts on other soils.

A few conditions are necessary for the luxuriant growth of grass; adjacent circumstances must determine how to secure these conditions. Thus, the soil must be suited to the kind of grass, otherwise it will soon run out, and can only be kept by plowing and re-seeding often. For instance, one writer says, "whoever has limestone land, has blue grass; whoever has blue grass, has the basis of all agricultural prosperity." The estimate is undoubtedly too high, but the fact of the suitableness of the limestone soil to blue grass, is unquestioned; and the thousands of acres of Kentucky and Ohio pastures perennially productive of this species, are evidence of the truth of the statement. So then, if a blue grass pasture has failed on a soil unsuited to its permanence, the remedy is to seed with some other variety which will be at home on that particular soil.

Whatever the soil, no pasture ground will remain good long, when overstocked. Though none dispute this truth, yet half the complaints of failing pastures come from neglect of it. Many err in turning in stock before the roots of the grass are strongly entrenched in the soil. Not a hoof should enter the field the first season after seeding, nor the following Spring until the grass is well started, and it should then be fed but sparingly until a thick matted turf is formed; and afterward it should never be pared to the very ground.

Many pasture grounds will need manure in addition to what is left by cattle. An occasional dressing of 300 to 500 lbs. of bone-dust per acre, will make itself felt in the increased product of grass. Where only cattle feed upon grazing lands, go through the field two or three times in a season and scatter the lumps of manure with a maul or other implement; otherwise a few spots will be over-fed and rank, while the surrounding soil may be lacking fertility.

It will seldom pay to break up a natural pasture. A thorough scarifying with a harrow, and the application of manure with a little seed, will in most cases restore it effectually. In any case, avoid the one remedy principle. Take into consideration all the circumstances, and give the treatment which the particular symptoms indicate.

Cutting Next Year's Grass.

"Don't leave your wages behind you," is a caution often given in the hay field, when the mowers fail to shave the surface as close as the scythe can be made to cut: or if the horse mower be used, the knives are set to run as low as may be. The objection has been made by some, that these instruments are wasteful on account of the high stubble left; because, argue the objectors, an inch at the *butt* is worth two inches at the *top*. This is far from certain. As is well known, the lower part of the stalk is the first to harden and stiffen by the change of much of its substance into woody fiber. This adapts it to support the weight added to the upper part, in the growth of flower and seed, but unfits it for feeding; so that there is but little loss of food when one or two of the lower joints are left uncut.

But even granting that the whole stalk is valuable for fodder, some regard must be had to the future grass crop, unless on ground intended for immediate plowing. Cultivated grasses in our meadows are perennials, depending for future growth and propagation on the parts under ground as well as upon the seed. When the top is removed by mowing, the whole after-

growth must come from below. In herds-grass for example, at the base of each stalk small offsets or bulbs are attached to the main bulb from which the stem springs. These contain nourishment eliminated from the soil and the air, by the roots and the leaves. It is designed as food for the young shoots of the next season's growth, which will spring from the bulbs, just as the parent stalk grew from the main bulb. In the natural growth of grass, the leaves and stalk continue to supply these bulbs with nourishment until late in the season, when the stem withers. Cutting the stalk during or immediately after blossoming, does violence to the nature of the plant, by stopping supplies intended for future growth. This is in some measure unavoidable, but if the two lower joints of the grass be left, a sufficient after-growth will immediately spring up, to afford a very fair stock of material for the bulbs. Where the stalks are cut close to the ground, unless rain follows immediately, the burning sun scorches them down to the very pith of the parent bulb, and we have seen whole acres of timothy killed in this manner in a single season. The effects of heat are felt all the more because the lower growth has been shaded during the whole season, and is illy prepared to resist the full power of the sun.

We therefore advise the economy which looks to the future of the meadow. Do not cut next year's grass in the great eagerness to make the most of the present crop. It may also be remarked here, that immediately after mowing is a very favorable time to spread composted manure upon the meadow. It acts as a mulch, preserving the bulbs and roots from scorching, as well as fertilizing the ground and quickening the young growth.

Hints for Haying Time.

This is preeminently the haying month throughout the Northern States. And it is one of the most important operations of the whole year. Probably the statement is not over-drawn, which makes the annual hay-crop of the single state of New-York exceed in value the annual gold crop of California, taking it in the long run. The importance of cutting, curing and storing it in the best manner, can hardly be over-estimated. A few hints on this topic:

All are not agreed as to the best time for cutting timothy; some claim that it should not be touched until the heads are plump and full of seed, others that it should be cut as soon as the stalk is full grown and the heads are bursting into blossom. The majority hold the latter view—and wisely, we think, especially where there are large meadows to be cut. If it be left until the grass is fully ripe, before commencing to cut, the last part of the crop will have become hard and dry, certainly if there be only a moderate force of workmen, and if many rainy days occur. Grass cut while green, contains much more nutriment, and is more easily eaten than when over ripe. In the process of ripening the stem, the starch, sugar, and gum are converted into woody fiber. This is the useful design of nature to stiffen the stalk, that it may sustain the seeds until they are ripe, but it destroys much of the plant's nutritive qualities. What we want in hay, is to preserve as much as possible of the food qualities of good grass. It is perhaps no extravagance to say that good, bright straw is about as valuable for fodder, as grass cut after it is fully ripe. There is also this important consideration in favor of early cutting, viz: the roots of the grass become less exhausted,

and yield a more vigorous after-growth. Nor is it a small item that green cut hay sends fewer foul seeds into the manure heap.

But the mode of curing is hardly less important than the time. There is good sense in the old maxim, "Make hay while the sun shines;" but hay may get too much sunshine. If grass is over-dried in wind and sun, it loses much of its sweetness and richness. Who does not know that distillers of plants always dry them in the shade, thus preserving their oily portions and fine flavors? So with hay: it may be so dried up by the sun as to render it little better for fodder than so much brush-wood. We will thank the sun to dry off the dew, and to just wilt our grass, then we can almost dispense with his services.

Or, to be a little more particular: We will cut grass in the forenoon, and turn it over in the afternoon. Next day, as soon as the dew is dried off, we will rake it up into windrows and let it lie until the middle of the afternoon, when, if well cured, it may be carted in, or cocked up. Next day, if the weather be good, the cocks may be opened awhile, and then carted in, or stacked. If not convenient to house it at once, it may stand in the cock uninjured for several days. If rain should get into the windrows or cocks, they must be spread and dried. Just here the *hay caps* come in play; and each cock of hay may with very little expense be safely tented, and be almost as secure as though stored in the barn.

The manner of putting up the cocks is no trifling thing. It is not enough to roll the hay into big bundles; for if thus managed, the cocks will absorb rain instead of shedding it, and will be very apt to blow over in high winds. Let them be laid up carefully, by placing one fork-full on top of the other, making the heaps tall and not broad, and dressing them off with the pitchfork, like a thatched roof. They will then stand several weeks of all sorts of weather, uninjured.

Sometimes, it is found necessary to get in hay when a little too green. In such cases, it is well to mix in an occasional layer of old hay or dry straw. This will absorb the surplus moisture of the green hay, and the dry fodder will itself be improved by it. It is also an excellent plan to have several places for storing hay, so as not to be obliged to put in more than one load to a single mow in a day. Let it not be trodden down much when first put in.

And before leaving the topic, let us remind the reader that much labor, time, and expense will be saved by the use of the "horse-pitch fork" for unloading. We have described and illustrated several. The poorest one we have ever seen is far better than none. Every farmer having half a dozen or more acres of grass, should get the best one within his reach. They are now on sale in most parts of the country. The best kind, with ropes and pulleys all complete, costs not more than \$10 or \$12, and will soon pay for itself.

Air Ducts in Mows.

Hay, however well cured, will contain more or less moisture, unless the process of drying has been carried so far as to render it entirely unfit for fodder. Few seasons are so favorable that several loads are not deposited in the mow somewhat damp, either wet by a sudden shower, or carted in before entirely ready, to escape injury from a threatened storm. When a large amount of hay or grain is packed closely together, it requires but a small degree of mois-



AMERICAN FARM SCENES—SUMMER—FROM AN ORIGINAL SKETCH BY F. O. C. DARLEY.
(Engraved for the American Agriculturist.)

ture to cause partial fermentation and consequent heating of the mass. The injury resulting from this process, will of course depend upon the extent of the fermentation. If violent, the whole substance is disorganized, and rendered entirely worthless for any purpose but manure. If there be but slight chemical change, enough decay may follow to fill the mow with dust from the rotted particles and the mold engendered, and such hay will be prejudicial to the health of stock. Its effects are particularly noticed on horses, and when it must be used, careful feeders will see that it is first cut and wet, and if practicable mixed with ground stuff. A plan to remedy the difficulty, partially, at least, is suggested by a correspondent of the *American Agriculturist*, at Mount Union, Pa., as follows:

First—Take three pieces of board, three inches broad, and in length the height of the mow; nail them together as if for a square box, making the fourth side with slats about two feet apart, and set these ducts upright at one side of the mow, at intervals of six or eight feet. Second—Take two pieces of board three inches broad, and use slats as above on two sides, making a square tube with two sides open; the length to be the width of the mow. Connect these horizontal ducts with the upright ones, by means of a loop of hoop iron, so that the horizontal ducts may be raised or lowered at will. When the mow is empty, these last ducts may all be raised to the top of the bay-way, and when filling at harvest, they can be laid in at any distance required; about six to eight feet apart seems best. This will secure a circulation of air through the mow, and carry off much of the remaining moisture.

The Harvest Time.

The scene represented above, will be enacted on thousands of farms during this harvest month of July. The seed sown in hope, watered with the sweat of the husbandman, kindly cared for by the Hand that spread the snow covering, sent the early rain, and withheld not the quickening sunshine, now yields its precious increase—some thirty, some sixty, some an hundred fold. A wonderful history is written on every field of waving grain. Here are raised millions of structures such as no art can equal, stored with the elements of life for man. The root, the leaf, the stalk, the bending ears, each is a marvel—the result of processes which chemistry can only guess at, and never imitate. Had one of these processes failed, who can measure the disaster that must follow—FAMINE. Only those, who like the suffering thousands of Kansas have seen its gaunt form by their firesides, can know the fearful significance of the word. No wonder the husbandman enters the harvest field with a light step, a thankful heart, and a song of triumph.

It adds greatly to the joy of harvest time to feel that much of its treasure is due to the skill and labor of the cultivator. Though rain and dew and sunshine have been distributed by an impartial hand upon the fields of the careful and the thriftless, yet nowhere is the truth more plainly written, "God helps those who help themselves." The clustering stacks which adorn the well ordered farm, are monuments to the skill, industry, and perseverance of the owner; and not less do the meager harvest fields

reproach the ignorant and the slothful; each weed seems to point a finger of scorn, and every thistle is like a stinging rebuke. He who can show his barns filled with plenty, may rightly enjoy an honest pride, equally with him who returns from battle, flushed with the glory and the spoils of victory. By arduous and self-denying labor he has triumphed over stubborn soil and perverse storms, and his conquests bring more satisfying joy than those of the warrior; for he has left behind him no desolated districts, nor bereaved households to sadden recollection.

The picture before us needs amending to bring it up to the times. The cradle is already becoming antiquated, and will soon repose with the sickle, driven from the field by the victorious reaper. Most of our readers also will exclaim against the introduction of females in the labors of the harvest field. That is not an American institution—though Darley, in a moment of inspiration may have had a presentiment of what may be necessary, should the present war be prolonged, and many more of our country's sons feel impelled to leave the peaceful field of agricultural labors for the field of conflict. No doubt American women have strength and patriotism enough, if the times of '76 return, to emulate their grandmothers, and care for the homestead, while their partners are defending their country.

We again take occasion to commend this beautiful series of lithographs to the notice of our readers, as well worthy a place in their dwellings. They are of large size, 15x19 inches finely executed, and sold for \$5 the set of four. We can procure them for any who may wish it.

Clover in an Orchard, etc.

J. Cornelius, Union Co., Pa., inquires about the effect of clover on an orchard. We do not know that there is any foundation for the popular notion that "clover is *poisonous* to fruit trees." However, a thick mat of clover, growing near the trees, would draw heavily upon the soil, and also shade the roots too much; and in this respect a lighter grass would be preferable. No grass or other crop should grow upon the soil occupied by the roots of the trees; as fast as the roots extend out, diminish the amount of ground cultivated; and when the roots fill the ground, and the branches shade it, it is hardly worth while to attempt to get much of any other crop than fruit, if fruit be the main object. The surface should be kept free from weeds and foul stuff, and a frequent application of manure to the soil is repaid in larger, better fruit, and more of it. For a few years, a considerable portion of the soil between the rows of trees may well be devoted to hoed crops, with an occasional crop of peas, which leaves the ground clean. The more work you ask of a soil, the more you must feed it—with manure. A growth of clover turned under, is excellent food for a soil, in an orchard, or anywhere else.

Notes on the Borer.

A correspondent of the Rural New-Yorker who has apparently observed the habits of the apple tree borer carefully, states that the insect comes out of the body of the apple tree fifteen or twenty inches from the ground, about the 15th or 20th of June. Soon after this, the female begins to deposit her eggs, not by boring, but by placing them in the small openings of the cuticle or outer bark of the tree, near the ground. It appears that all these eggs are deposited between the 20th of June and the 20th of July. He recommends in the last week of June to clear away the earth from around the body of the tree down to the root, then with a trowel or similar instrument to scrape off the loose bark and dirt from the trunk as clean as may be, for twelve or fifteen inches from the ground. After this preparation, rub in hard soap until all crevices are filled, and finish by rubbing with the flat hand till the whole space is smoothly covered with a thin pellicle of soap, leaving no place for the insect to deposit her eggs. The soap will remain until the egg season is passed, and as it is washed off, will not injure, but benefit the tree.

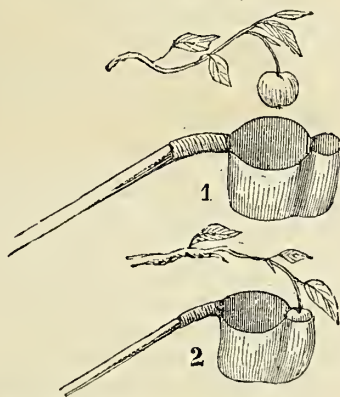
Cultivation of the Quince.

Why is the quince bush so generally condemned to some out of the way corner in the back yard, where old shoes, broken crockery, and other household rubbish are thrown? When properly cared for, it is a beautiful ornamental shrub, with blossoms superior to those of many a prized foreigner; and its habit of growth makes it an admirable connecting link between the smaller shrubs and the standard trees. What more beautiful sight in Autumn than its bending limbs loaded with golden fruit? And what housekeeper thinks her winter stores complete without quince jelly, marmalade, or the fruit preserved plain? The treatment of the bush has been shabby, and very often it has come into disfavor because it did not repay *neglect* with a fine yield of smooth handsome quinces. But it responds well to generous culture, and fruit-growers have found it a profitable crop for mark-

et. All good specimens sent to this City are eagerly bought up, and at prices which must make its cultivation remunerative. They have usually sold readily at from \$1 50 to \$2 per 100.

The quince should have a rich, deep, mellow soil. Although the roots spread near the surface, depth of soil is needed to guard against drouth, to which the tree is very sensitive. The apple quince is most prolific, and the fruit is generally preferred to other varieties. The trees need an area of ten or twelve feet, and should therefore be set at about that distance apart. Deep cultivation, such as is required for the standard pear, will not do for the quince, because of the shallow depth at which the roots grow. A light hoeing, and mulching with tan bark, leaves, straw, or other suitable material must be depended on to keep down weeds, and supply moisture. An annual dressing of the surface with salt is generally recommended, but respecting the utility of this, we have some doubts. Little pruning is needed; only enough to clear out suckers and sprouts, and prevent rubbing of the branches. The apple tree borer (*Saperda vivitata*) often attacks the trunk, and the same precautions are necessary for prevention, as in the case of the apple tree.

The quince is easily propagated by cuttings, or layers. Seedlings are not certain to be true to kind, and it is therefore preferable to procure stock from a growing tree, if rooted plants of known variety can not be obtained.



A Cheap and Convenient Fruit Gatherer.

The accompanying illustrations represent a very convenient, cheap, and easily made apparatus for picking fruit, devised by Mr. Alfred H. Thorp, Fairfield Co., Conn., who forwarded drawings of it for the *Agriculturist*. To make it, take a strong wire, and bend it to the shape shown in the cut. Cut grooves the size of the wire on the opposite sides of the end of a pole, in which place the ends of the wire hoop, and secure them by winding with strong twine, or, what is better, with fine annealed wire. Sow a bag of stout glazed muslin to the rim of wire, and the implement is complete. The bag should be large enough to hold ten or a dozen fair-sized apples. Glazed cloth is better than plain muslin, because it is not so readily caught by the small branches. The pole could be made with a socket or rings near the lower end to splice it, if necessary, to reach fruit on high branches.

The illustrations show the manner of using the apparatus. It is raised until the apple enters the larger bow of the rim, (Fig. 1,) then moved until the fruit is caught in the smaller one, (Fig. 2,) and a gentle pull deposits it safely in the bag. When nearly filled it is lowered and emptied.

Mr. Thorp used such an apparatus for gathering all his Winter apples, and he says the work was done more quickly and in better order than

in the old way of using ladders and climbing about in the trees. Danger of injuring the limbs both of the tree and the boys, was avoided, and many fine specimens on the ends of the branches were secured uninjured, which must otherwise have been shaken down and bruised. The apparatus is not patented, and all are therefore free to make and use it.

How to Start a Vineyard—Profits of Grape Culture.

With most persons, the first and great question is, Will it pay? Not a few people are satisfied to plant a vine or two, without troubling themselves with the inquiry as to their profitability. It is enough for them to know that the grape-vine makes a pleasant shade around porch and window, and in clambering over the arbor. A very gratifying employment it is, to watch its growth from year to year, and to prune and train it into proper shape and abundant productiveness. How luscious, beautiful, and healthful the fruit!

This is all very well, but there are many persons, just now, who are inquiring about grape-growing as a business—they want to know whether it can be made profitable, in the same way that orcharding and market-gardening are profitable. And how is the work to be managed? We believe that grapes can be raised with profit, the fruit being used both for wine-making and for dessert.

Of course, the nearer the vineyard is to one or more large cities, the better; as then the grapes can be got to market quickly and in good condition, to meet any demands, and on both grapes and wine there will be quite a saving in cost of transportation.

A selection of suitable soil and exposure for the vineyard, is a matter of much importance. The grape is a child of the sun, and luxuriates in light and warmth. A porous subsoil is almost indispensable to success. If in the site chosen there is anything like standing water, or what is called a "springy" state of the soil, it must be remedied by thorough draining: otherwise, the vineyard had better be given up. A slight inclination of the surface to the south is desirable, though not essential; but a steep slope to the north would be fatal to success. Natural or artificial shelter from cold winds is a good thing. A high hill, or stretch of forest trees on the north and west sides, will hasten the early growth and maturity of the crop very perceptibly. For wine-making, a site mid-way between the damps of a valley and the cold winds of a hill-top, is most preferable.

In preparing the soil for planting, we should advise thorough plowing and subsoiling. Run the double Michigan plow through first, about fourteen inches deep, and follow with a large sub-soiler. Let a plentiful manuring go along with this. Instead of using simple barn-yard dung, we would make a compost of such manure mixed largely with woods-soil, or rotted sods, and chip-dirt, adding also a supply of ashes or bone-dust. Dr. Underhill, of Croton Point, whose grapes and wine have become famous in this city, applies, in some cases, from twenty to thirty bushels of bone-dust to the acre; and in others, uses a compost of swamp-muck, leaf-mold, rich loam, sods, weeds, grape-cuttings, stable manure, and potash. For fruit-raising, ample manuring is quite desirable; but for wine, all that is needed, is to bring the soil into a condition suitable for raising Indian corn. Dr. Underhill says that from \$50 to \$75 a year may be

profitably spent in manuring and cultivating an acre of grapes for market.

The land having been brought into good condition by one season's previous tillage, the vines may be set out, if for wine-making, five or six feet apart in the row, and the rows about the same distance asunder. This will take about 100 vines to the acre. Good, strong, yearling plants are better than cuttings. Train the vines to a temporary stake, the first year, keeping down all but one good cane. The vines designed for fruit-raising, should be set ten or twelve feet apart in the row, and the rows eight to ten feet wide. For the first two years, some kind of hoed crop may be grown between the rows, which will go far towards paying the interest on the land before it bears a crop of grapes. The stakes for the wine-producing vines should be about seven feet long, and be driven into the ground a foot and a half. They may be of cedar, chestnut, or locust, or other durable wood. The trellis for the fruit-growers may be made of cedar posts eight or ten feet apart, about six feet high above ground, and with four lines of No. 12 wire stretched from post to post. The wire may be fastened to staples, or a slight cut may be made with a saw in the post, and the wire drawn around it and fastened with a twist. Galvanized wire is the best, but common wire may be kept from rust by painting, or by tarring it. For the latter, heat the wire in the bundle, and put on the tar while it is warm.

As to the best mode of pruning for such a vineyard, we need not speak at length. The vines for wine will undoubtedly be best pruned more or less according to the common German method, as practised at the West. Those designed for fruit, will be trained on the spur or long cane system. In either case, the principle will be followed, of taking the fruit from wood of the preceding year's growth. Each year, the ground is to be plowed in the Spring, and cultivated several times through the Summer, keeping down all weeds. For this purpose, it will be needful to use the hoe somewhat, but the more the work can be done by horse-power, the cheaper it will be. After the fruit begins to color, cultivation ceases, and all treading the ground between the vines is to be forbidden. In the month of June, when the fruit is well set, the vineyardist should go through the rows, and pinch off from one-third to one-half of the clusters, leaving only the best to mature. This is especially needful in the case of that raised for dessert. There will be less fruit, but it will ripen earlier, the clusters and berries will be larger, sweeter, and higher flavored, and will command a higher price in market. This is Dr. Underhill's method, and it is by this, in great part, that he has gained his reputation. And to this, we must add, that he who wishes to command the market and his own price in it, should allow no fruit to go from his vineyard except the ripest, and best in every particular. Every cluster should be examined, the unripe and defective berries cut out, and then they should be nicely packed in clean, new baskets.

The above is the ordinary routine of grape culture when pursued with an eye to the greatest profit. A gentleman, living near Reading, Pa., gives the following estimate of the cost and income of an acre of vineyard in his vicinity:

The whole expense, including cost of land, outside enclosure, vines, trellis work, and all labor, is.	\$642 00
Cost of wine press, shedding, casks, etc.	200 00
Making the whole capital invested	\$842 00
The average yield is about 640 gallons of wine, worth at the press 80 cts., or.	\$512 00
The yearly expense.	80 00
Leaving a clear annual profit of.	\$132 00

Mr. Buchanan, of Cincinnati, after giving the estimates of others, subjoins his own, making full allowance for losses by rot, fermentation, frost, and various wastes:

Cost of vineyard per acre, say \$250; interest per annum.	\$15 00
Cost of attending, per acre.	60 00
Cost of making the wine.	25 00
	\$100 00
Probable average annual product, 200 gallons wine, say at \$1.	200 00
Supposed profit per acre.	\$100 00

But should the wine bring only 75 cents per gallon, it would still leave a profit of \$50 per acre, which is large enough, and more likely to be the sum realized throughout the country."

Dr. Underhill estimates the cost of establishing a vineyard, at about \$400 per acre, and, when properly made, as being worth, as a permanent investment, from \$1,200 to \$1,500 to the acre.

We give these several estimates, that the uninformed reader may form some general idea of the profitableness of the business. Of course, the profits will vary according to the price of land and labor, distance from market, variable seasons, etc. The best peach orchards of New-Jersey and Delaware, average a yearly profit of from \$75 to \$100 an acre; but then, they last only six or seven years, are subject to many diseases, the crop is liable to be cut off by frost; and in very productive years the market is apt to be overstocked, and the fruit being very perishable, has to be sold at any price. But a vineyard, well managed, lasts a life-time, and increases in productiveness just when the peach orchard is beginning to fail. The crop is less liable to suffer from frost or disease, and the market is in no danger of being glutted with either grapes or wine.

It seems desirable, on many accounts, to combine the growing of grapes for fruit and for wine in one plantation. The fruit yields the speediest return, while the profits are greatest on the wine, and it can be sold all the year round. The smallest clusters of the entire vineyard can be used for wine-making, the largest being reserved for sale as fruit.

There are several other items which might well be considered here, but they must now be deferred. In particular, as to the varieties of grapes best for wine and for fruit in different localities, our readers are referred to an article on Grapes in the April No. of the *Agriculturist*.

A Grape Worth Watching.

At the annual meeting of the Newburg Horticultural Society, last Summer, a new native grape was exhibited by Mr. Woodward, of Mortouville, Orange Co., which attracted much attention. It was styled the "Skunnymunk Grape," from the mountain on which it was discovered. It was said to ripen before the 15th of September, and to be perfectly hardy even in seasons where peach tree blossoms were destroyed by the cold of Winter. A writer in the Country Gentleman describes it as follows: "Bunches well formed, compact; berries all of one size; shoulder on one side quite long, similar to the Delaware; the color a coal black, skin quite thin, flesh white, with red colored vines, and no toughness of pulp discoverable. Sweet, juicy, aromatic, it somewhat resembles the Concord in flavor, but I think is in every respect better. The clusters are larger, weighing full a pound."

Another spectator who got a taste of it, speaks of it in high terms. He says it is of the Labrus-

ca class, ripens ten days earlier than the Concord, often the last week of August or first of September. He was told by those who had seen it for several years, that it was hardy, free from disease, and an abundant and regular bearer. If it ripens as early as this, it will be valuable for districts where the Isabella and Catawba do not succeed. From all we can learn about it from private sources, we judge it will rank in quality with the Concord and Logau, and be desirable for its fine appearance and earliness.

A Glimpse of a French Vineyard.

A young friend now traveling in *la belle France*, sends us an occasional letter which is so appropriate to the columns of this journal that we desire to share it with our readers. Here are a few passages from one of them:

The immense plains near Orleans, and indeed along a large part of the Orleans and Poitiers road from Paris to Bordelais, are devoted largely to grain and vine-growing. Much of the soil around Orleans is low and seems to need draining, though it is far from being marshy. The department of Loire, in which the town is situated, has, besides its grain-fields nearly 75,000 acres planted with vines, furnishing a yearly average of 1,200,000 hectolitres of wine. (A hectolitre is about 23 English gallons.) These, however, are not the best wines of France. I was cordially received by M. D—, at his vineyard, near Orleans. The species of vine most raised here is the Auvanat. The Isabella and Catawba of America, are known here, but, as might be expected, do not thrive as well as their own native grapes. In answer to my inquiries as to his method of establishing a vineyard, M. D., said: "In the Fall, we make our cuttings by taking off the shoots at the junction of the present year's growth with the last. At this point is a 'laton' or ring, from which roots readily start. These twigs are cut into proper lengths, tied up in bundles and buried in dry soil a foot deep. In the Spring, they are found calloused over, and young fibers are ready to start. They are then planted in holes about eight inches deep, made by a sharp iron punch, the rows being three feet apart. The first year, they are allowed to grow as they please. In the Fall of the second year, they are cut back to three buds from the ground; and they are treated in the same way for two years more, the object being to form a strong stump about four inches high and two inches thick, from which fruiting canes can always after be trained at pleasure. The fourth Summer, one strong shoot is grown, keeping down all others, from which fruit is taken the following year.

If several shoots start from the stump during this fifth summer, all are broken out except the one nearest the ground. The cane is cut off in the Fall at from three to four feet from the root. We aim to get our fruit as near the ground as possible. And to aid in this, in the Spring, just before the buds start, we bend over the cane into a circle, so as to make the extremity almost touch the ground. This checks the too rapid rush of the sap to the upper buds, and causes the lower ones to fill out as plump as the higher. In May and June, the canes are tied permanently to their stakes with willow twigs; the stakes being only about four feet above the ground. In France, stakes are a great item of expense. One servant man and his wife can tend a vineyard of six acres, except in grape harvest, and the time of fall trimming, when large forces have to be employed.".... Some

vine growers practice uncovering a part of the roots in Spring, to check the too early starting of the buds, and to keep the roots from growing too near the surface. A thorough manuring is given once in four or five years. After a vineyard is fifteen years old, it is thought best to break it up, and begin anew on another piece of ground. If a less severe system of pruning were practised, it is believed a vineyard would last a life-time.

Osage Orange Hedges.

A correspondent of the "Field Notes" recommends to sprout the seeds of the Osage Orange by placing them in a warm moist atmosphere, carefully excluding all light or sunshine. Then plant them in a seed bed. The young plants are very tender for the first two weeks after sprouting, and should be in a light, friable soil, that will not bake after rains; if it should, the surface must be picked loose, about the time the plants are coming up. He says "I have never known the plants to freeze out after the first season, (we have.—Ed.) to prevent which, they should be taken up in the Fall, and packed in a cellar in moist sand. I have grown a good fence in four years after setting in the hedge-row, and every one that thinks he can do the same in less time, will soon find he is mistaken."

Notes on Strawberry Cultivation.

Extensive Plantation—Specimen Field—Best Sorts—Manner of Treatment—Cheap Baskets Wanted.

We recently had an agreeable call from Mr. J. Knox, of Alleghany Co., Pa., the most extensive strawberry grower in the Atlantic States, if not in the Union. He has also a large area devoted to raspberries and blackberries. We were particularly interested to learn his success with the fifty acres of strawberries which he has now in bearing, and drew from him some important hints. In a specimen field he has one hundred varieties, in as many different rows, where, for his own satisfaction, and to prove new sorts, he exhibits nearly everything heard of in the strawberry line. This is of great value to cultivators, and a large number visit his grounds during the season of fruiting.

The two varieties most largely grown, are the Wilson's Albany, of which there are thirty acres, and the Triomphe de Gand. So well does Mr. Knox like this latter sort, that he is rapidly increasing the stock, even by encroachments upon the well known and popular Wilson's seedling. In amount of yield, perhaps none exceed the Wilson, but for uniformly large size, fine flavor, firm flesh, beauty of color, together with large productiveness, he places the Triomphe de Gand at the head of the list of proved sorts. The early pickings of these often bring \$1 per quart box.

Mr. Knox's soil is a clayey loam—the very best for strawberries—plowed deep and subsoiled, with a moderate amount of manure worked in. The plants are set in perfectly straight rows, two and a half feet apart, and ten to fifteen inches distant in the row, according as they are strong or weak growing sorts. Instead of letting the plants cover the ground and exhaust themselves in a few years, the runners are clipped by women and boys, as fast as they appear. This operation is somewhat laborious, but the increased product amply compensates for the labor, besides facilitating the culture. A

light horse-cultivator can readily be run through, to loosen the soil and destroy weeds. In Autumn the rows are lightly covered with long straw, which serves as a winter protection. This is thrown between the rows in Spring, and keeps the soil from drying up, prevents weeds from growing, and preserves the fruit from becoming soiled. The gradual decay of the straw also enriches the ground.

Mr. K. says his average yield is about three hundred bushels of fruit per acre, but some sorts give over five hundred bushels to the acre. He thinks the plants will continue vigorous for at least eight to ten years.

The fruit finds a ready sale at Pittsburg, Philadelphia, Chicago, etc. Most of it is sent to market in quart boxes of the Hallock pattern, although some of Cook's baskets are used. He agrees with us, that some very cheap box is wanted, which may be sold with the berries, at a trifling advance on the price of the fruit. Persons passing a strawberry stand would often buy a box of fruit but for the trouble of furnishing a basket to contain it, or being obliged to return the box. The appearance and quality of the berries are also injured by changing them from one basket to another. Will Yankee inventors please make a note of this want, and endeavor to supply it?

Watch the Cucumber and Melon Vines.

That vexatious pest, the striped bug (*Galeruca vittata*), though usually most destructive to vines in June, while the growth is tender, is still active, and must be looked after. Several broods of these insects hatch out during the Summer, and their ravages continue until the end of the season. The best remedy we have found, is a brood of young chickens. Confine the parent hen in a movable coop near the vines, and insects will very soon be scarce. Or if these can not be had, visit the garden very early in the morning, before the insects are fairly awake, and take them with the thumb and finger.

Do not allow the vines to have it all their own way in growing, or they may neglect fruiting. When they have grown three to five feet, according to their natural habit, nip off the ends and thus reserve the strength for completing the fruit already started. It will also be well later in the season to remove all small specimens that have started late, and which can not come to maturity before frost. The remaining fruit will be finer. In the case of muskmelons, the unripened fruit will come into use for pickling.

Cucumbers for pickling should be gathered as fast as they grow to the proper size. If left until they commence to ripen, the flavor and firmness of the pickles will be injured, and there will also be a feebler growth of the later fruit.

A Poor Man's Pleasant Home in the Country.

It is a prevalent notion that a pleasant country residence must necessarily cost a great deal of money. As we have walked with visitors through the tastefully planted grounds of a certain neighbor, it has often amused and vexed us to hear the remark made, with a long drawn and half envious sigh, "Well, *rich* people can have such fine places, but we common folks must go without them." While the truth has been, that in most cases these grumblers were richer than the envied proprietor: they were richer, but lazier. This fine place cost the own-

er skillful industry, continued for many years, but not much outlay of money.

It has been our pleasure to visit lately, another residence, in a neighboring county, which is the admiration of all who see it, yet which cost but little money, and is the property of an intelligent, hard-working mechanic. The pleasure it gave, and the good example it may afford to others, induce us to give a brief account of our visit:

On alighting at the gate of this gentleman's grounds, we were not struck by the grandeur of the house, or the pretension of the gate-way; by statues, vases, or ornamental structures of any sort. None of these things were to be seen. The house was an old one, renovated and slightly modernized, with a porch on one side and a piazza on the other, and a little bow-window for plants. The fence was a simple paling, made and painted by the owner's own hands. The lawn in front was not large, but it was indeed a lawn—smooth, closely shaven, and of the finest sort of grasses, and notwithstanding the prevailing drouth, quite green. The trees were well chosen specimens of their respective kinds, evergreens and deciduous, pleasantly intermingled. Mr. Brown, the proprietor, has a strong preference for native trees over foreign, and thinks it almost a test of one's patriotism to think as he does. He is very fond of raising trees from seed, and has a little nursery of all sorts of native seedlings, from which he transplants to different parts of his grounds as occasion requires.

One feature in Mr. B.'s planting attracted our particular attention, viz.: his management of groups. Some were open and wide-spreading, others as close and dense with undergrowth, as the wildest forest. Some were set on the outskirts, with low-branching trees and shrubs and vines, and the foliage was so closely interlaced down to the very ground that the eye could not penetrate it at all. On the margins, were piled boulders and broken masses of rocks, over which wild shrubs and vines clambered, giving the whole a very picturesque air. Gravel walks wound among these groups, frequently leading into the center of them, where were rustic seats, on which the family or visitor could sit and enjoy siestas, shielded from the sun and from all observation. This was the wildness and seclusion of the forest, in the midst of a highly dressed lawn, and within three rods of Mr. B.'s parlor.

The spaces between these groups were kept mowed, and here and there were circular beds of flowers. For instance, we noticed one bed of crimson petunias side by side with one of pure white. Adjoining these ornamental grounds, but concealed by hedges, were the kitchen and fruit gardens, in which vegetables and the smaller fruits were growing in a healthful and vigorous manner that showed good care.

Leaving this part of the premises, Mr. B. conducted us along a carriage-road leading to a valley in the rear of his premises. Observing that this road was somewhat broken where it ran in a straight line, but smooth where it curved, Mr. B. said he had noticed the same thing, and had ready an explanation of it. Where the road was straight, the hinder wheels of his wagons (which were often heavy loaded) followed exactly in the tracks of the forward, and thereby deepened the rut; but where the road curved, the different wheels ran over different portions of the ground, and therefore did not cut any part badly. So, in road-making, as in many other things, utility and beauty run in the same track.

Following this road, we were soon in the

midst of a well-wooded valley, down which ran a stream broken by occasional rapids and waterfalls. At the foot of one of these falls, which was about twenty feet high, Mr. Brown had built one or two rude seats. From this point, we followed a path leading by a gentle ascent in various windings up the sides of a tree-covered hill, until we reached the top. This was not a gravel walk, but simply a wide wood-path, laid out by our host himself, and easily kept in order. This hill proved to be a ridge with several distinct eminences. On each of them the underbrush had been cleared up, and comfortable rustic seats built out of the trees and grape-vines of the surrounding forest. And now came a series of pleasant surprises. From one of these peaks, a view had been cut out through the woods in a southern direction, embracing a wide range of country, hills, valleys, streams, and scattered farm-houses. The landscape in every other direction was left purposely slant out from observation. After resting and enjoying ourselves awhile here, we followed the path down into the forest again, until ere long we turned and gained another summit. Here were home-made seats again, and another prospect, but in an entirely different direction. Before us in the distance, were two valleys converging, with their mill-streams, and factories, and villages. From this point, too, all other views were excluded. Off again, but in the direction of the valley, we followed our host's guidance among the trees, until we came upon a seat built close upon the brink of a precipice, from which all outward views were cut off by overhanging trees and wild vines, but from which on looking downward, almost under our feet, we saw the house and grounds of Mr. B., the repose and beauty of which were in striking contrast with the wild spot in which we were sitting. Could anything have been more charming! After enjoying this nook awhile, and listening to the musical tinkle of the stream below, we took up our line of march down into the valley, and thence to the house, where a dinner refreshed us after our long ramble.

Now, we venture to say that there are few places within fifty miles, so attractive as this. Yet it was not the property of a rich man. Nearly all these improvements were made by the owner's skillful hands, with only a trifling outlay of money. They were made from time to time, at odd hours, as a means of recreation from other and harassing pursuits, and all within the past seven years. It is true, Mr. Brown had a valley and a hill to work up, such as few possess; but then he had also a quick eye, and a ready hand, and a stout will, which seldom fail to accomplish great results anywhere. The fact is, most persons are *too lazy* to effect much; and they are glad of the chance to yawn their complaint: "Oh, if I were only rich, I could

have a fine place!" What such men as Mr. Brown have done with limited means, and in so short a time, others may do, if they only possess a like enthusiastic love of rural pursuits, a willingness to sacrifice some other common gratifications, if need be, and perhaps to sweat a little, in order to secure a desirable object. *



Ornamental Hanging Baskets for Plants.

While calling at the house of a friend recently, we were particularly struck with the air of finish that seemed to pervade the room where we were seated. The furniture was inexpensive but neat; a few choice engravings hung upon the nicely papered walls, and the window curtains were tastefully arranged; but we had often seen as well chosen surroundings without the same effect, and it was not a little puzzling at first, to decide what gave such pleasant satisfaction in the general appearance of the apartment. So we commenced noticing the details, and almost immediately found the solution of the query. A few hanging baskets, filled with growing plants in bloom, were disposed about the room, one before each window, and a larger one in the center—these gave the crowning grace. As rooms are ordinarily furnished, there is too sudden transition from the carved and polished mahogany and the elaborate wall paper, to the blank ceiling overhead: something is needed to break up the violent contrast, and what more pleasing than a few graceful trailing and climbing plants? There are many situations where these beautiful ornaments will be equally in place, as in the large hall, the openings of the veranda, pendant from the roof of the rustic summer-house, or even swinging from the lower branches of the tree in the front yard.

Hanging flower baskets may be made of va-

rious materials, and there is no lack of plants suitable to fill them. Of those represented in the accompanying illustrations, the uppermost one is of rustic work, or crooked branches of oak or other wood nailed together to form a support for the flower-pot containing the plant. The others are of terra cotta, and may be bought at most manufactories of pottery ware. Wire is a very cheap material, easily formed into the required shape to hold the flower-pot. If this be used, it should be painted green, and kept partially filled with moss to hide the pot within. Shells of various kinds are also admirable for this purpose, as was fully described and illustrated in the *Agriculturist* for April, 1859, p. 117. In whatever way the plants are suspended, they will, of course, need the same care respecting watering and drainage, as if cultivated on the flower stand. Great pains should be taken to keep the leaves free from dust. The following list of plants will afford a good selection for almost any situation. The seeds may be obtained at most seed stores, and, for house culture, be sown at any time.

Anagallis Monelli.
Campanula speculum.
Cenia turbinata.
Cereus flagelliformis.
Cochlearia.
Grammanthus gentian.
Gypsophylda muralis.
Ipomea nil, and quamoclit.
*Ivy Leaved Geranium.
Linaria cymbalaria.
Lobelia ramosa.
Mahernia incisa.
Manulea violacea.
†Maurandia Barclayana, etc.
Mesembrianthemum tricolor.
Nemesis floribunda.
Neurembergia gracilis.

Oxalis crosa—mx'd Petunias. Thunbergias.
Portulacca grandiflora. Tradescantia caudata.
Silenis alpestris. Tradescantia discolor.
†Saxifraga sarmentosa. Tradescantia zebrina.
Sedum ceruleum. Verbenas of various kinds.

* These are shown in the upper basket in the illustration.
† These are shown in the right hand basket.
‡ These are shown in the left hand basket.

Rose Leaf Picture Frames.

A writer in "The House and Garden," thus describes how to make a pretty, ornamental style of picture frames: "The leaves of the Multiflora or climbing rose, are best suited for this purpose, as they have a greater richness and variety of color than most of the rose family. At the time when there is the greatest variety of colored leaves, strip them from the bush, and put them to press in any old book you do not wish to use; change them as often as every other day, until sufficiently dried; then take any picture you wish—an engraving is generally used—fasten it on to a paste-board, and leave a margin the width you wish for your frame, outside the engraving. Sew the leaves on to the paste-board frame, either in knots or groups, or simply overlapping each other, and varnish with furniture varnish. When dry, suspend with cord and tassels, and you have a very pretty picture." Other leaves of variegated colors, as maple, etc., or several sorts showing different shades of green, may be used in the same manner.



Fig. 1.

Washing Day—A Clothes Dryer.

We are writing at ten A. M. on Monday. Just at this hour, there are in this country more than four millions of females bending over the wash-tub in exhausting labor! The thought is not startling; there are ten millions of other adult persons, male and female, hard at work, with body or mind, in other occupations. The fact that four millions are at the wash board, is suggestive, however. In the four million families where washing is being done this morning, the number who use anything else than the old wash-board, is so small as not to be taken into the account. The inventors of the hundreds on hundreds of patent "Washing Machines" which are as yet little used and likely to remain so, will make a note of this, and understand that there is still abundant room for the exercise of their mechanical ingenuity. There is not the smallest doubt that as soon as a cheap, convenient washing machine is invented, one which will cost but little, and prove to be decidedly superior in practice to the old fashioned wash-board, it will come into general use. Many tolerably good washing machines are already invented, but not one of them appears to exactly hit the universal wants of the community. We could find fault with every one we have seen. Though our own washing is mainly done with a "Metropolitan," and we like it, yet it is not perfect, and it is too costly for universal use. It is undoubtedly cheap at ten dollars; yet comparatively few families will divide its cost over washing days enough to make it appear cheap enough to purchase this year. So keep on, Messrs. Inventors, the end of your labors is not yet reached.—Then there is the wringing machine. We got one, and our people were in ecstasies over it—it saved such a world of wrenching of the shoulders, arms, and hands, and it saved the garments too from the straining of the fibers. Well, we like it just as well as ever, and we say every family ought to have one. But it cost ten dollars at first! and most families could not pay that sum for the new machine. We said so to the manufacturers and begged of them to set their wits to work to get up a cheaper implement. By the application of machinery, and changing its structure, they came down to eight dollars, and sold more machines, but, as we repeatedly told them, it was yet too costly. Now they have got down

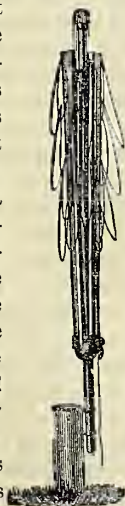


Fig. 2.

to five dollars, and we think the thing will go. It would pay the purchaser at ten dollars, and it must come into use at five, certainly.

Washing Fluids and Washing Powders, were all the rage a few years since. A villainous concoction of lime, potash, spirits of turpentine, etc., did up the cleansing in double quick time; but the turpentine was bad for the health of the washer; and the alkalies were exceedingly bad for the health of the garments. Most of the washing compounds are now properly numbered among the things of the past; the old fashioned compound of grease and potash, or soda, is yet the thing for the wash-tub, and likely to remain so for some time to come.

The Clothes Line is one of the annoying things, in the experience of nine out of ten of our housewives. If we had all the men together, we would give them a lecture which should at least set them to thinking. The poor stakes, half put up, in all sorts of places; and the half rotten "lines" consisting of five to forty odds and ends of broken bed cord, ropes, strings, etc., are far too often the only means of drying the clean linen and cotton that the good woman has spent

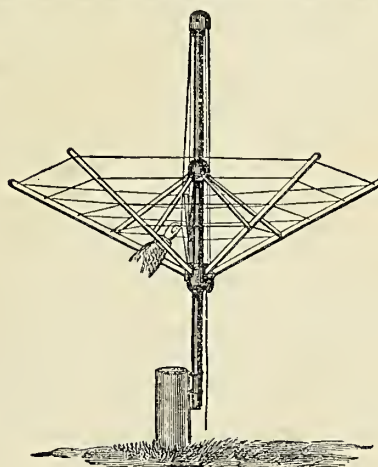


Fig. 3.

so much time upon. Every man who does not provide a good strong clean clothes line, with good supports, and a grass covered plot, away from dust, don't deserve a clean shirt, nor, we like to have said, a good wife; but such a man certainly does need a good patient wife. A whole chapter could easily be written upon clothes lines; but everybody, at least every woman, knows the difficulties experienced in the matter, better than we can describe them, and the men would not read the chapter if it were written. Any housewife who has not had more than one hard day's work spoiled by the breaking down of a line, and hundreds of other pieces soiled by weather beaten cordage or flying dust, is more fortunate than nine hundred and ninety nine others of her sex. That's so. There is, however, one bright side to the picture. The amount of ingenuity and skill exercised by most women in contriving to keep the clothes lines up, with nails, pins, sticks, boards, etc., has undoubtedly done much to develop mechanical skill, and bring out latent powers of mind!

The last paragraph on clothes lines, indeed the whole subject, has been suggested by a glance out of our study window, at a new fangled "Yankee Notion," standing in the lawn, labeled "Hawse's Patent Clothes Dryer," which the manufacturers had the kindness to send out to us a few weeks ago. It's a good thing, indeed the finest thing of the kind we have seen, though even this is "open to objections"—so the women folks say. But they would be loth to part with it, and their verdict is, that every housekeeper

should have it who has not already abundance of room, plenty of grass, and good lines. It is convenient, holds a large number of garments in a small space, is quickly folded up and carried under cover so as to preserve the cordage from being weather beaten, and can be put up ready for use in three minutes. It is rather ornamental than otherwise, and cheap, since one having 120 feet of line costs but \$5½, including frame, cordage, and foot post or socket, complete. For larger sizes the cost is about a dollar extra for each 30 feet of line. The chief or only objection is, that though the garments are far enough apart to dry well, they partly shade each other, and the women say that they want the bleaching effects of the sun upon every part of each white garment. As this can be secured in very few places, especially around city and village dwellings, and the new clothes' dryer is otherwise a great desideratum, it is worthy of pretty general adoption.

The engravings, figs. 1, 2, and 3, require little explanation. Fig. 1 shows the Dryer elevated as when in use. The garments are left off in order to better exhibit the implement itself. Fig. 3 shows it when let down to a convenient height to receive the garments. Fig. 2, shows it folded up ready for carrying in. The upright shaft is set into rings on a foot post, which stands only 12 or 15 inches above the ground, and does not disfigure a lawn or grass plot. After bringing out the frame work, and setting it in the sockets, the simple pulling of a cord raises or lowers the lines to the position seen in figs. 1, and fig. 3. The cord works in pulleys so easily that a child can elevate or lower the framework when loaded with wet garments. The entire frame is so arranged upon sockets that it revolves upon the central shaft, and any part of the cordage can be easily brought around to the basket. After two months' trial, and a thorough examination of this and other apparatus designed for the same purpose, we are prepared to recommend this as the best we have seen. It is advertised in this paper by one or more parties.

Ironing Apparatus Wanted—A Fortune for Somebody.

To the Editor of the American Agriculturist.

Among your hundred thousand or more readers, is there not some one who is Yankee enough to invent an ironing machine, and make his fortune? I feel almost certain that if men had to do the ironing for a family, week after week, especially in Summer, they would soon get their brains heated enough to invent almost any thing. Washing day is bad enough, with its suds and slops, and hard work, and cross husbands; but half its terrors are gone at our house since we procured the Metropolitan washer, and that complete wringer. Every thing is put away snug and tidy before husband comes home on wash-day, and it is worth the price paid for those articles to see his smile of satisfaction. A few years ago some one brought out a two-story smoothing iron, with a miniature stove in its basement to contain burning charcoal, which kept the iron heated for a long time, and saved some steps in running from the table to the stove, to change irons. But it did not lessen the work of smoothing the clothes, and the charcoal fumes right under one's nose while at work, were not only unpleasant, but positively injurious, and we pronounced the thing a failure. There are what are called mangles, used in large laundries, I believe, for smoothing linen, but they are not adapted for

family work. We want something inexpensive, compact, easily worked, and which shall free us from the drudgery of standing in an uncomfortable position, over a heated surface, and laying out strength enough to last two days in ordinary work. Please, Messrs. Inventors, come to the aid of woman in this matter, and you will find a ready purchaser and a grateful friend in

MARTHA.

Important Hints on Putting out Fires.

It should be firmly fixed in the mind of every man, woman, and child, that the best way to extinguish a fire is to *smother it*, that is, to shut out the access of air. If the clothes take fire, wrap them together closely, or throw around them a blanket, a sheet, another dress, a tablecloth, or a piece of carpet—anything that can be first got hold of. A newspaper, or handkerchief, suddenly spread over a flame and drawn down so as to at once shut out air, will extinguish or check the fire. It is well for children and even grown people to *practice* extinguishing a flame, by setting on fire, in a safe place out of doors, a quantity of paper or shavings, and even burning fluid, and then try how suddenly the flame may be extinguished with a cloth or paper. A little practice like this will give confidence and experience, and prevent that sudden fright and indecision which generally occur when a fire breaks out.

Where burning fluids are used, they frequently run over and take fire on the outside of the lamp. Usually, if held still, the excess of fluid will burn off with no harm. A sudden, heavy blast of breath will generally put out the flame. A cloth thrown entirely over it, will certainly put it out. Shaking the lamp through fright, or throwing it down, only makes the matter worse, by forcing out more fluid. Don't be afraid of an "explosion." It is next to impossible to explode even a burning fluid lamp. It is barely possible to do it by having the wick out of one tube, so that the flame can run down the opening; and then not one time in a thousand will there be just the right mixture of air and fluid vapor to produce explosion enough to break the lamp. There may be a little puff and report, and the dropping of the lamp in fright will throw out the fluid, or break the lamp if of glass, when of course there will be a flame, but one easily extinguished by means of a cloth. Dashing on water often scatters the burning liquid around the room, making the matter worse. Let it be remembered, that not one in five hundred of the reported "explosions" of lamps, is really an "explosion" at all. They result from spilling fluid carelessly, or *breaking* a lamp. In the fright, the fluid is perhaps dashed over the clothing, and bad burns and even death may result, especially if the person runs out into the air, and thus fans the flame. After all that has been published and said on the subject, any person who will fill a lamp while burning, or do it near another burning lamp or fire, ought to be burned—a little.

If a fire occurs in a room or closet, do not throw open the doors and windows, and thus fan the flame. Close every aperture instantly, until an abundance of blankets, and water, are secured, then throw open the door, and quickly smother the flame. No common substance will burn without air, except gunpowder, or nitre, or chlorate of potash, and such like compounds which of themselves furnish the oxygen to support the flame. Even phosphorus will instantly go out if simply smothered.—If these simple di-

rections were so fixed in the mind, that a person is prepared to act coolly, nine-tenths of all the fires, the suffering from burning of garments, and the so-called lamp explosions would be avoided.

For the American Agriculturist.

"Patent Leather" Boots and Shoes.

A man with unblackened, rusty looking boots, can scarcely be well dressed. He may be honest, energetic, and every way worthy, but the first impression he makes upon strangers, will be less pleasing than if his equipment were completed with well polished leather. But it takes time and trouble to apply the blacking and brush, and manufacturers have devised a fabric to dispense with this trouble, and at the same time enable the wearer to be always presentable, so far as covering for the feet is concerned. "Patent leather," as it is called, is japanned, or coated with a varnish which retains its luster, and boots and shoes made from it, only need a slight dusting to be in trim. Hence they have become very popular; and judging from the appearance of the shoemakers' display of stock, and the numbers we meet who wear these articles, nearly one half the dress boots and shoes now worn, are of "patent leather." But those who buy them, pay dear for their whistle. They are uncomfortable, and positively injurious to health. Complaints are sometimes made that they "draw the sun" and heat the feet. This is an error. They absorb less heat from the outside than ordinary leather, because a polished surface reflects heat more readily than a rough one: but, for the same reason, they do retain the heat given out from the foot, and hence are uncomfortably warm in Summer. The varnish, before it is cracked by wear, is impervious to water, and hence the large amount of perspiration escaping from the foot is retained, and the flesh is thus kept steaming with poisonous vapor. In Winter, the dampness of the stocking conducts away the heat rapidly, and you have a continual cold foot bath, which every one knows, or should know, is ruinous to health. One of the golden rules for preserving health is, "Keep the feet dry, and moderately warm," neither of which can be done when using "patent leather" shoes.

It were better to appear ill-dressed than suffer from chilblains, colds, and headaches; but this need not be. Let the fastidious young men who pride themselves upon a highly polished boot, rise a few minutes earlier in the morning, and take healthful exercise with the shoe brush; it will conduce to their welfare in more ways than one.

COMMON SENSE.

Get an Early Breakfast.

A bad custom is prevalent in many families, especially among farmers, of working an hour or two before breakfast, attending to "chores," hoeing in the garden, cutting wood, mowing, etc. This is convenient on many accounts, but it is not conducive to health. The prevalent opinion is, that the morning air is the purest, and most healthful and bracing; but the contrary is the fact. At no hour of the day is the air more filled with dampness, fogs, and miasms, than at about sunrise. The heat of the sun gradually dissipates these miasmatic influences as the day advances. An early meal braces up the system against these external influences. Every one knows the languor and faintness often experienced for the first hour in the morning, and that this is increased by exercise and want of food.

We do not agree with the boarding school regime which prescribes a long walk before breakfast as a means of promoting health.

Probably the best custom would be, to furnish every member of the family, especially those who labor out of doors, with a simple cup of warm coffee well milked, immediately after rising from bed. Then let them attend to chores, or mowing, hoeing, etc., for an hour or two, while the teams are feeding, and breakfast preparing. They will feel better, and do more work.

For the American Agriculturist.

Good Meals for Emergencies.

It often puzzles a young housekeeper to know how to provide for unexpected guests who chance to arrive near meal time. This is the more perplexing in the country, where one can not send to a neighboring cook shop for food ready prepared. It is no compliment to company to spend the time of a visit in extra cooking, and yet one likes to have an inviting meal for friends. Let us see what may be done.

Good bread and golden butter, no farmer's wife should be without; fruits, either preserved, dried, or fresh, she is supposed to have, with eggs, cream, ham, sweet pork, and the best vegetables. Suppose a guest arrives at twelve, just as dinner is coming on, and there is no pudding baking, and only sufficient meat for a dinner, or perhaps a boiled dish, or beans with pork, are the food prepared. If the latter, delay the meal fifteen minutes, which will give time to make and bake such a cream pudding as towns-people seldom see, or a minute pudding, or custard.

For a good *Minute Pudding*: Heat 1 quart of milk over water until boiling hot. Add some sweet butter to the milk. Mix flour with cold milk and four beaten eggs to form a batter, and stir it into the boiling milk, until smooth. Let it steam over water until unceded, and serve with cream and sugar, or maple syrup.—For *Cream Pudding*: Beat six eggs to a froth, mix a pint of milk with a pint of flour, and two small teaspoonfuls of salt, and just before baking, add a pint of sweet cream. Bake steadily twenty five minutes. Serve with sugar and butter stirred to a cream. If in time of fruit, instead of the above, serve peaches or berries with cream whipped stiff and sugared.

If dinner can not be delayed, serve two tables. Fry or broil ham with eggs; or *broil* thin pork—the latter is a treat to city people. If you happen to have dry cake, boil a quart of rich milk, take it from the fire, add four beaten eggs, and sugar; beat until cool. Dip the cake in a part of the custard, and beat the remainder to a foam for the top of the dish; add the beaten whites of eggs stiffened slightly, over the hot milk, and flavor to suit the taste. An excellent dessert.

If tea is the meal, and you are troubled for want of nice cake; remember, cake is no luxury in town. Toast bread nicely, drop eggs on water until the whites are coagulated; dip the toast in butter, with a trifle of hot water added, or merely spread it; cut each slice in three or four pieces, lay an egg on each, and add butter, pepper and salt. This is a nice tea dish for persons intending to ride, and with a pickle or other relish, would make a nice meal. *Cream Cake* hot, to be eaten with butter, is nice for a hurried tea, both with and without sugar. To make it: take a pint of flour, four eggs, a teaspoonful of soda, the same of salt, and thin sour cream sufficient to mix the whole in a stiff batter. Pour one cake into a pan, and add half a teaspoon of sugar to the other, and bake. *Muffins*

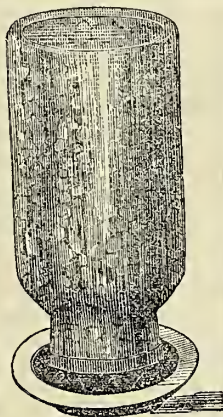
may be made in the same manner, and are more genteel. If sweet cream is to be had, mix one teaspoonful of soda, and two of cream of tartar, in the flour. With this, sweetmeats are unnecessary, though proper. Custards, at a farmer's, can be made in a few moments at any time—dished in cups, with cream cake, with and without sugar, they make a genteel tea meal, fit for a king. This is the only cake except ginger cake, that we use hot, and we are supposing there is not time for cake to cool before tea, and besides, it can be made in ten minutes.

By July, early chickens are fit to cook. If in haste, pull out the wing and tail feathers, split the *skin* on the back, and take it off, feathers and all. Fry or broil, and either for a dinner or a country supper, they will not be despised. They can be prepared in half an hour, with mashed potatoes, and cold or hot slaw, lettuce, or cucumbers.

MRS. E. F. HASKELL.

Plain Directions for Keeping Fruits— Best Method of "Preserving."

The old method of "preserving" fruits, by cooking with pound for pound of sugar, thus making them exceedingly hard to digest, and seriously impairing the *flavors*, is still much in vogue. During several years past we have done what we could to point out a *better way*, and not without good results as we have reason to know; but there is much still to be said on the subject, and improvements are constantly being made. Let it be understood by all, who do not know the fact, that it is just as easy to keep the various fruits in *almost* their natural condition, as it is to preserve them in the old way, and that the new method is cheaper and every way better on the score of health and pleasure. Perhaps we can not better point out the means, and the results, than by describing our own experience for a year past. First, let us say, that we have discarded the use of tin cans. These operated well, and when carefully treated so as to avoid all rusting, they are harmless, at least if used only once or twice; but after having learned by experience that *glass* bottles are equally effective, we greatly prefer them on the score of absolute safety. The salts formed by the corrosion of tin are not pleasant to the taste, and when existing in any appreciable amount in canned fruit, they are more or less poisonous.



BOTTLES.—Last year, we procured a supply of quart glass bottles with wide necks. Some of them were common cheap glass, costing four to eight cents each, such as could be picked up at the druggists' and glass stores. A better form, which we could not get in the quantity desired, last year, were "Yeoman's Fruit Bottles." These were made with a small shoulder on the *inside* of the neck, to prevent the corks from being driven inward. A few bottles holding two quarts each were used, but the one quart size is to be preferred in most families.

CORKS—CEMENT—TIN COVERS.—Good corks, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, and in diameter nearly $\frac{1}{2}$ inch larger than the necks of the bottles, were pro-

vided. These are to be soaked in hot water before using, which softens them so that they can be compressed into an opening much smaller than their diameter when dry. For cement, we put into a 2 quart basin, say 3 lbs. of rosin, and a trifle over 3 ounces of tallow, and melted it together. This can be re-heated and used as often as required. By mixing a large quantity at a time, and securing the proper consistency, it is always ready for use, and what is left over one year, keeps perfectly well until the next; it can be made harder or softer as experience may indicate. For each bottle we procured a small *tin cover* or dish large enough to hold the top of the neck. Small "patty pans" costing 8 to 12 cents a dozen, are just the thing.

STRAWBERRIES.—These come first in the season. Good, ripe, but not over ripe fruit, was picked over to sort out stems and partially decayed and unripe berries. The fruit was then placed in a glazed iron, or tin vessel, and just covered with a hot syrup made with a pound of white sugar to a *quart* of water. The whole was carefully heated for a few minutes, avoiding burning, but not stirring to break the berries. In the mean time, the bottles were heated by the fire, or in water, and when the fruit was fairly scalded through, it was dipped into the bottles, making them full. The corks were then taken from the hot water where they were soaking, wiped dry, and crowded firmly into the bottles a little below the top of the necks. No air should be left under the corks. The top of the corks and the necks and tops of the bottles were wiped thoroughly clean with a warm wet cloth, and then dipped into the basin of melted cement. They were next set down into the tin dishes, as shown in the engraving, and cement dipped in until the tins were nearly full. If any bubbles of air were seen in the cement, they were closed with the spoon, and a little more hot cement. The bottles were then set away on shelves in a cool place in the cellar—it matters little whether right side up or inverted in the patty pans, or left on the side. The cooling of the contents tends to produce a vacuum, and create a pressure *inward* which binds on the tin covers firmly; and these with the cement around the neck prevents the possibility of the corks being driven in, or of the ingress of air. The whole operation, though described at length, is very simple and easily and quickly performed. More or less sugar may be used, but we prefer a pound to a quart, which makes the fruit just about sweet enough for the table.—As the *result*, we have had good nice strawberries, almost as fresh and perfect in form as when first picked, and not a single bottle has been lost. Those still on hand (June 10th) promise to be just as good at the end of another year, and perhaps five years hence.

CHERRIES are very easily kept in bottles, and come out in beautiful order. We have annually put up a large supply in cans and in bottles, for several years past, and have never lost one by fermentation or poor keeping. They preserve their flavor admirably, and the white varieties, especially, show finely when poured out into the sauce dish. One can scarcely have too many. They are treated just as described above for strawberries, but may be cooked a trifle more without breaking. The prospect is that the cherry crop will be very light this year.

RASPBERRIES.—These were put up just as described above for strawberries, and with equally satisfactory results.

RUBARB OR PIE PLANT will make an excellent bottled sauce, especially this year, when

sugars are so cheap. Peel and cut the tender stems in short pieces, stew and sweeten well, just as if for pies; then put hot into the bottles, and cork and seal as above.

WHORTLEBERRIES, OR "HUCKLEBERRIES," always keep well with us, and are good for pies, etc., at any season. Cook 10 or 15 minutes in a syrup of only $\frac{1}{2}$ to $\frac{3}{4}$ lb. of sugar to a *quart* of water, and bottle hot as above.

BLACKBERRIES keep well, and are good for sauce or pies the year round. Treat exactly as strawberries, but make the syrup a little sweeter, say $\frac{1}{4}$ lbs. of sugar to a *quart* of water. This is especially needed for the New-Rochelle, and the low bush wild varieties, which are more tart than the common wild high bush sorts.

PEACHES, AND THE SOFTER KINDS OF PEARS Nothing makes a better or more beautiful bottled fruit than these. A little more care is needed in putting them up, to preserve their form and aroma. We peel, and halve or quarter them, and put the pieces directly into the bottle packing them closely and full. The bottles are then sunk in a vessel of water nearly up to their necks, and heated to near or quite the boiling point. A *hot* syrup is then poured in, and the corking and sealing done as for strawberries. They should remain long enough in the vessel of water to become heated *through*, but not long enough to cook them soft, or dispel their flavor.

QUINCES, AND HARD PEARS.—These are first cooked soft—but not to a jam—in a covered vessel, using a syrup of 1 pound of sugar to a *quart* of water. Bottle hot, just as described for strawberries. If cooked soft, they will not harden in the sealed bottles as they do when preserved in the ordinary way.

PLUMS are readily preserved in bottles. The sourer varieties require rather more sugar than a pound to the quart. Plums require a little longer cooking than smaller fruits, to heat them through to the pits. The skin preserves the flavor until they break. Though they do not appear so well on the table, we prefer to have them break a little, as the syrup saturates them better.

TOMATOES.—These are cheap, and everywhere accessible; and they should be put up in bottles in large quantity by every family, as a standard sauce for the year. They lose little flavor in cooking. We peel and cook them in their own juice, without sugar, boiling them down to a thick pulp, adding salt enough for seasoning. They are then ready for the table, and also to put directly into bottles while hot, to be corked and sealed as above. The keeping depends mainly upon the thoroughness of the cooking. If not perfectly sealed, a little mold often collects upon the top, but this seldom injures the fruit, unless stirred up with it.

IN CONCLUSION, let us again advise every family to lay in a stock of all kinds of fruit accessible. Bottles of some sort can be obtained anywhere. For the smaller fruits and for tomatoes, narrow necked, junk, or other bottles will answer, if the more convenient wide necks can not be obtained. The latter are, of course, more convenient for filling and emptying, and are necessary for putting in the larger fruits without breaking.

We have made the directions as plain as possible. A little experience will enable any person of ordinary skill to put up all these fruits in bottles, where they will require less sugar, and come out more like *fruit*, than in the ordinary methods. A few losses may be experienced by the novice, but practice makes perfect, and the practice may as well be taken this year as next.



THE LITTLE 'SCARE-CROW.'—FROM AN ENGLISH PAINTING.
(Engraved for the American Agriculturist.)

The Editor with his Young Readers.

The "Scare-Crow."

There is an earnest, patient expression on the face of the little girl in the engraving. She is poor, and has been hired to keep the crows from the wheat field, by frightening them with the wooden "clapper" she holds. This is done in England. In this country, you know, a 'scare-crow' is often made by dressing the image of a man in cast-off clothing, and setting it in some conspicuous part of a field. It usually looks so ridiculous, that it is a term of reproach, when a person is called a 'scare-crow.' But the child in the picture, though engaged in this employment, is such a one as every body loves to look at. She is vigorous and ruddy from exposure, with an intelligent face, and an air that seems to say "I'll do my duty." If, like most of you, she had the opportunity of attending school, instead of laboring to aid her parents, she would no doubt be equally diligent and faithful there. The old couplet written by the English poet, Pope, says:

"Honor and shame from no condition rise,
Act well your part, there all the honor lies."

Remember that the way to rise to a higher station, is to be faithful in the lower place you may now fill. It is related of a former member of the Massachusetts Legislature, a wealthy and highly respectable man, that he was reproving one of his workmen for carelessness. The man answered

sharply, "You needn't be so mighty particular, I remember when you were only a little drummer boy." "Didn't I drum well, Billy?" replied the employer. If you have corn to hoe, hoe it well; or if, like the little girl in the picture, you are set to drive away crows, do it well.

An Incident of the War.

Upon the ghastly picture presented by every war, there are always many bright spots that stand out all the more vivid, from the darkness of the background. In the present strife, in which our country is unhappily involved, there have already been many interesting incidents, and an occasional one may be recorded here. One occurred at the time the Rhode Island soldiers went into Maryland. While moving westward from Annapolis, a company of men were acting as an advance guard, and becoming hungry and weary, they entered a farmhouse, and asked for food. The woman was greatly frightened, and cried out: "O, take all I have; take every thing, but spare my sick husband." "O, don't be alarmed," said one of the men, "we ain't going to hurt a hair of your head, but please give us something to eat." The woman could not be pacified, but hurried a meal upon the table. The men gathered about the table, and baring their heads, a tall gaunt soldier raised his hand, offered thanks to God for the food, and invoked His blessing upon the bounties spread before them. At this, the woman broke down with sobbing, and knelt down

and thanked God that she was safe. Her fears were at once dispelled, and bidding them wait a few moments, she made good hot coffee in abundance, and brought forth milk, cream, and other luxuries from a well stored cellar. While they were eating, she emptied their canteens of the muddy water they contained, and filled them with coffee. Her astonishment was still further increased when they insisted upon paying her; and on her refusal, each man left upon his plate half a dollar for his meal. The lieutenant, himself an irreligious man, tells the incident with great expression. Said he: "That asking the blessing, knocked out my underpinning; and when I saw this, and the evidently united feelings of the rest of the men in the ceremony, and their kindness to the woman, I felt that I was the officer of good, as well as brave, soldiers."

A Young Patriot.

A gentleman living in Brooklyn, related an anecdote in our hearing, which shows how the war spirit has taken hold of every body's feelings. A boy, seven years old, was greatly interested in a letter from a brother, who is with one of the regiments, describing their manner of life in the camp. When bed time arrived, instead of going up stairs as usual, he said: "Father, may I camp out to-night?" "Camp out, my son, what do you mean?" asked the father. "Why camp out in the yard. I can take the wood-house for a tent, and Tom and Bounce (the cat and dog) can be sentries, and stand on guard!" His father laughed at the absurdity of the idea, but the boy insisted on it with great earnestness, and had a regular crying spell, because he was refused permission. He wanted to practice being a soldier, he said, so as to be ready to go when called on.

A Farmer Boy's Letter—A Valuable Crop.

A. J. Price, one of our young readers, writes: "Three years ago, my father gave me a quarter of an acre of ground to cultivate, and every Saturday afternoon to work it, and so raise my own spending money. It was not a very good piece, being uneven and full of briars. I planted some pop-corn, which the squirrels ate mostly; some beans, which were so few they did not amount to any thing; some melons which were small and did not last long; some peas which the mice ate up; also some squashes and onions which never came up; and last of all some potatoes, of which I raised 7 bushels, and sold 5 bushels for 5 shillings per bushel. Here, then, was over \$3 spending money. That was my first experiment on my own account.

The next year I planted all potatoes, on nearly half an acre. It was a tough piece of meadow, plowed the Fall before. I had to work very hard to keep the grass down, it being rather wet. I raised about 40 bushels, 25 of which I sold for 3 shillings per bushel. The rest were small potatoes, and I let father have them for \$1, which I sent for the *Agriculturist*—money well invested I think. That was my second experiment.

Last year I tried it again, with the same amount of land, but it was another tough piece, being a patch that had been chopped a long time, and had come up again to bushes. After much grubbing and hard work, I managed to raise 50 bushels in all—a great many rotted. I kept them until this Spring, and have sold 12 bushels for 2 shillings per bushel; 35 bushels I have on hand yet, and am likely to have for a while, as there is no sale for them here. This is my third experiment. If I have to give away the rest of my potatoes, to get rid of them, it will not be a very profitable one."

True enough, young friend, the potatoes may not be worth much, but you have been cultivating that which will pay handsomely. PERSEVERANCE is one of the best crops a young man can raise, and yours must have grown somewhat in the last three years. Work away, try again, and again, and then don't give it up, and ultimately you will find a field which will pay for all previous efforts. Those three years will very likely fix your character, and you may owe great success in after life, to the lesson learned in that time; then how pleasant it will be to remember those first "small potatoes."

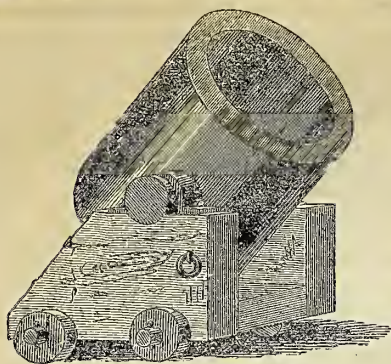


Fig. 1.—A MORTAR.

Explanation of War Terms.

As a people, we have been so long in a state of peace with all the world, that the technical terms of war are little understood. We have found ourselves somewhat at loss in this respect, as we have read of regiments, brigades, battalions, squadrons, platoons; of generals, lieutenant generals, major generals, brigadier generals, colonels, adjutants, lieutenants; of howitzers, mortars, columbiads, paixhans, caronades, dahlgreens; of shell, grape, canister, bombs, grenades; and of the hundreds of other terms of war. It occurs to us that a brief plain explanation of some of these terms will be interesting and useful to our young readers, and aid them in understanding the newspaper accounts daily perused. We will first describe some of the implements of war, and afterward explain the organization of an army, its officers, etc.

Gunpowder.—With this all are somewhat acquainted. It is a condensed compound which, on the application of heat, springs into a large volume of gas (or kind of air) with great power. Half a gill of powder will suddenly produce gas enough to fill a barrel, or 2000 half gills. Powder in very fine grains burns so fast and expands so quickly as to burst a cast iron gun; hence very coarse powder is used for cannon and large guns. Gunpowder is a mixture of about 6 ounces of niter (saltpeter) with 1 ounce of sulphur, and 1 ounce of charcoal. The charcoal used, is made of small willows carefully burned or heated in close vessels. The niter, sulphur, and charcoal, are ground separately, then together moist, and afterward pressed into solid cakes and dried. These cakes are broken into small fragments, which are put into cylinders and kept revolving until the sharp corners are worn off and the surface of the grains is polished, when they are passed through sieves to assort the coarse and fine grains—the fine being used for small guns, and the large for cannons, for blasting rocks, etc. The fine dust, if packed in a solid mass so that the flame can not spread easily through it, burns slowly upon one side, and is used for fuses in bomb shells and in blasting, for fire-works, etc.

Percussion Powder is composed of materials which are set on fire by the simple friction of a blow. The first guns used, were fired with a lighted match. Then a flint was arranged to strike off small bits of steel from a pan cover. These bits of steel took fire by the friction, and falling into the powder in the pan, set it on fire also. The fire burned through

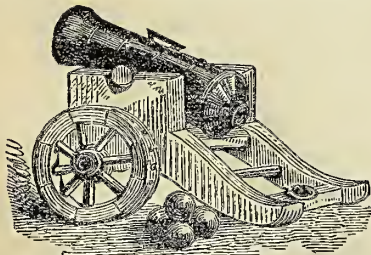


Fig. 2.—A HOWITZER.

the touch-hole into the gun barrel. This took time, and very often a well aimed gun would be moved out of place before the powder burned enough to throw out the ball. Now, a little percussion powder placed in a copper cap, is ignited by a blow of

the lock, and the percussion powder being very quick, the flame is driven into the barrel, and the gunpowder explodes before the gun is moved. Such guns are also surer than the old flint locks, in which not unfrequently the flints missed, or the powder got wet, or failed to burn through into the barrel.

Guns.—These are of many sizes and forms, and have different names. They consist of a tube, generally round, in the bottom of which is placed some powder, and over it a ball or a charge of shot. Generally, the powder is put down from the muzzle, either poured in loosely, or put in a bag. Soldiers carry prepared cartridges, which are commonly made of little paper tubes, the ball in one end, and a measured charge of powder behind it. For cannons, the powder is tied up in flannel bags. Some modern guns are arranged to be opened at the breech, and the charge is put in there. These are called *breech loading guns*.—All guns, large and small, may be divided into two classes, viz.: the *Smooth Bore*, and the *Rifled Bore*. At first, all were made smooth-bore; then hunter's rifle-bored guns, or "rifles," were made; but muskets, shot-guns, and cannons were still retained with smooth barrels; then rifled army muskets were made, and just now they are making rifled cannon. The sear so much better, that it now seems strange that they have not always been made so. It is impossible to cast a lead or iron ball so that it will be equally heavy in every part, and exactly fit a gun barrel. When a gun is fired a few times, it expands by the heat, so as to be too large for the ball. When a ball is sent through the smooth barrel, it moves from side to side, and when it goes out into the air, one side happening to be a trifle the heaviest, it keeps moving off to that side, which may chance to be up or down, or to the right or left, so that it is next to impossible to send it exactly straight forward. If its forward end or side be irregular, it will dart off a little to one side or the other as it cuts through the air.

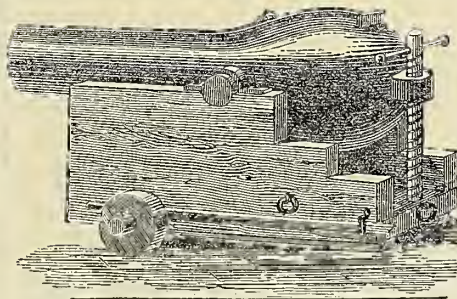


Fig. 3.—A COLUMBIAD OR PAIXHAN.

The *Rifle Bore* prevents this difficulty thus: On the inside of the barrel are little grooves, or railway tracks, so to call them. These do not run straight along the barrel, but spirally around it. Thus, if one of these grooves begins at the upper side of the breech of the barrel, it gradually winds around to the bottom or to one side, and in very long guns the grooves go nearly or quite around, but generally only about half or three quarters of the way round so as to turn the ball once in from five to ten feet. When lead balls are used, the sides of the ball are forced into these grooves, and when driven out, the ball is given a rotary motion, that is, it moves along just as if it were a bead sliding on a string, and kept turning around the string at the same time. The great advantage of this is, that the inequalities in the weight and shape of the ball are turned, now to this side, now to that, now up, and now down, and the ball is thus varied as much one way as the other, in other words it goes *straight forward*. The balls can also be made long and pointed, which enables them to go through the air better, with less resistance in proportion to their weight.

RIFLED CANNON.—In the old smooth-bore cannon the iron balls could not be made to fly exactly in a straight line. The same gun aimed in the same direction, would vary the ball from side to side of a mark, several feet in shooting a mile or less. By rifle boring the barrel, a good gunner can now hit a man a mile or two, or as far as he can be sighted. As iron cannon balls can not be pressed into the

grooves, a ring or cup of lead is put on the back part of the ball, and this on firing is expanded or forced into the grooves, which not only gives the ball its rotary motion, but the lead also stops up the space around the ball, and prevents the escape of gas, thus giving greater power to the powder. The space necessarily left between a solid iron ball and the barrel, is called the "*windage*."

DIFFERENT KINDS OF CANNON.

Mortars.—These are short, stout guns, having a large bore (See fig. 1). They are not set upon wheels, but upon a heavy low framework, and are used for throwing heavy balls and shells high in the air, to fall down upon fortifications, into forts, towns, etc. They are too short to throw a ball horizontally against the side of a wall. Owing to

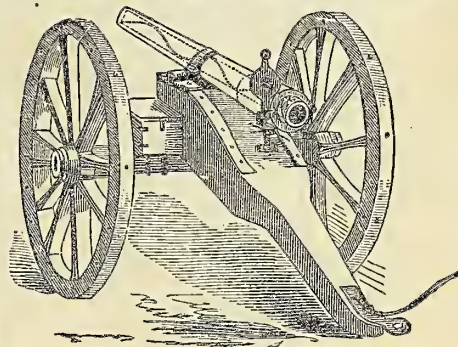


Fig. 4.—A WHITWORTH GUN.

their shortness, they are comparatively light in proportion to the large ball or shell which they carry.

The *Howitzer* (fig. 2,) is longer than the mortar, and carries a smaller ball or shell. The powder chamber back of the ball is smaller than the rest of the barrel, in which it differs from other cannons. *Mountain Howitzers* are merely Howitzers of light weight, which can be easily carried over mountains.

A *Caronade* is like the howitzer, but differs from it in being fastened to the carriage by a loop of iron under the middle, instead of resting on "trunnions," or projections from the side. It is named from Caron, a village in Scotland, where it was first made.

The *Columbiad*, (fig. 3,) differs from the howitzer in having no chamber, the bore being of equal diameter throughout. It is also made much thicker at the breech than at the muzzle, which gives great strength to that part of the piece where the principal force of the powder is exerted, so that lighter cannon of great bore, for large shells, can be cast in this form with less danger of their bursting. Both solid shot and shell are fired from the Columbiad. Our engraving shows the most recent, improved form; the older Columbiads tapered regularly from the breech to the muzzle.

The *Paixhan* is only another name for the Columbiad, and is so called from Gen. Paixhan, of France, who introduced the invention from America into the French army.

The *Dahlgreen Gun*, somewhat resembles the Columbiad. It is used for firing both solid shot and shell. It is named after Captain Dahlgreen of the United States army, who devised it.

The *Whitworth Gun*, (fig. 4,) is a rifled cannon, loaded at the breech. It carries a long conical ball, (fig. 5,) cast with projections on its sides to fit the grooves of the gun. The breech is serewed off, when the load is put in, and then serewed on again for firing.

The *Armstrong Gun* is also a rifled piece. Its principal peculiarity is in the ball used, which has bands of lead cast upon it, to fit Fig. 5. the grooves. It is somewhat objectionable for field use, because these bands are apt to fly off, and kill those standing near the gun when it is discharged.

PARTS OF A CANNON, ETC.—*Muzzle.*—The mouth, where the ball leaves the piece. *Breech.*—The end where the fire is applied. *Caliber.*—The size of the bore. *Cascabel.*—The knob at the extremity of the breech. *Chamber.*—The smaller cavity at the bot-



tom of the bore. *Trunnions*.—Projections from the sides of the cannon, to support it on the carriage.

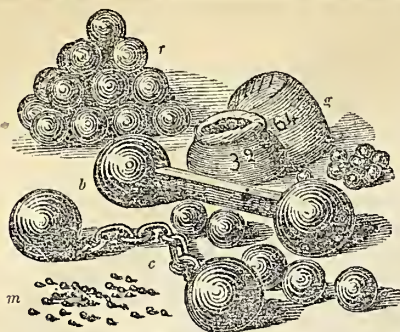


Fig. 6.—r, ROUND SHOT—g, GRAPE SHOT—b, BAR SHOT—c, CHAIN SHOT—m, MUSKET BALLS.

PROJECTILES, signify any thing thrown or projected. Shot and shell are the principal projectiles used in cannon. *Round Shot*, (r, Fig. 6,) are solid spherical iron balls of different weights, from two to more than a hundred pounds. The sizes most employed in battles on the open field, weigh from four to twelve pounds. The guns from which they are thrown are called *Light Artillery*. Heavier shot are used in *Heavy Artillery*, for battering down fortifications, sinking vessels, etc. *Bar Shot*, (b, Fig. 6,) con-

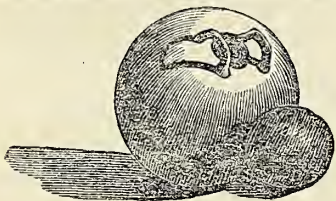


Fig. 7.—A SHELL.

sist of two round shot joined by a solid bar, like a dumb-bell. *Chain Shot*, (c, Fig. 6,) are two round shot linked together by a chain. These are used mostly for firing at vessels, to destroy their masts and rigging. *Grape Shot*, (g, Fig. 6,) are small iron balls bound together in a canvas bag. They are usually arranged around an iron spike, somewhat in

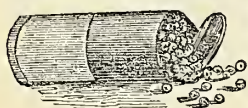


Fig. 8.—CANISTER.

the form of a bunch of grapes. *Canister or Case Shot*, (Fig. 8,) are iron bullets enclosed in a tin box or case. *The Common Shell, or Bomb*, (Fig. 7,) is a large hollow sphere of iron, filled with powder. A fuse is attached, which takes fire and burns slowly until the shell reaches the point aimed at, and then explodes the shell and scatters the fragments. In the improved shell, the fuse is made of powder ground fine, enclosed between two metal plates, and fitted to the opening in the shell. The inner plate has an opening leading to the powder within the shell, and the outer one is marked with the figures 1, 2, 3, 4. Before the gunner puts it into the cannon, he pierces the plate at one of these figures, at 1 if he desires the shell to explode in one second, at 2 for two seconds, and so on. *Shrapnell or Spherical Case*, are large hollow shot filled with lead bullets, and containing a small charge of powder, to which a fuse is attached. When fired, the powder just breaks the shell in the air, and the bullets fly on with the impetus received from the powder in the cannon, but "scatter" so as to cover a considerable space. *The Carcasse*, is a shell pierced with several holes and containing some highly inflammable ingredients, which are set on fire by the burning fuse. It continues to send out flames for several minutes, and is used for setting buildings or ships on fire. Round shot are sometimes heated red hot and fired for the same purpose; and recently hollow, thin shells filled with melted iron, have been used. *The Hand Grenade*, Fig. 9, is a small thin shell filled with balls and powder, and fitted with a fuse. It is thrown by hand, the fuse having first been



Fig. 9.—HAND GRENADE.

lighted. It is used to drive off attacking parties from a fort or vessel, to throw over breast works, or into forts, and is a formidable weapon.

The above is all we have room for now. Next month we will describe soldiers' equipments, the organization of an army, its officers, etc.

New Problems.

No. 15.—Interest and Discount Question.—Here is a question that came up in an actual business transaction, which has puzzled several of our friends. A number have tried their hand at it, but no two exactly agree. It would seem like a simple matter, and we submit it to our readers: Mr. B. has a mortgage of four years on the farm of Mr. H., for \$4,000, at 7 per cent interest, the interest to be received semi-annually. Being in want of money, Mr. B. offers to sell the mortgage to Mr. M., at such a reduction that his investment shall give him ten per cent interest, the interest to be reckoned annually. How much ready money must Mr. M. pay to Mr. B.?

No. 16.—Arithmetical Question.—Contributed to the *Amer. Agriculturist* by Eli Phillips: How many ounces of lead weigh as much as a pound of gold?

No. 17.—A military letter written in *cypher*, that is, by using other letters of the alphabet in place of those which spell the word. Try to read it:

Vhqq zlwkrxw ghodb wkuhh uhljplqwr r lqidq-wub wr dohadqguld zlwkw udwlrqv iru wkuhh gdlv.

Answers to Problems in June No.

No. 11.—Enigma. *Answer:* Chusan-rishathaim, found in Judges, iii chap., 8th verse. The name signifies "the blackness of iniquity."

No. 12.—Arithmetical Question. *Answer:* 7 cows, 21 sheep, and 72 geese.

No. 13.—Word Puzzle. *Answer:* Sir, between friends, I understand your overbearing disposition. A man even with the world is above contempt, while the ambitious are beneath ridicule.

No. 14.—Charade. *Answer:* Hemisphere.

[58 correct answers received to the above; the names we have not room for this month.]

STANDING PREMIUMS For 1861. Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing on competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once. Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$15 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopedia*, now in course of publication, consisting of fifteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining three will be furnished as fast as issued. Price, \$15.

Premium C.

98 Subscribers at 80 cents each, (or 69 at \$1 each,) will entitle the person getting up the club to one of *Willcox & Gibbs'* \$35 Sewing Machines, including a set of

Hemmers. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium F.

50 Subscribers at 80 cents each, (or 35 at \$1 each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. [If preferred, the best \$8 Subsoil Plow (two-horse) will be given.]

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers—a convenient, effective, and useful implement.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat malogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce which we pay.) See also Premium M, last month, page 186.

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19) sent post-paid.

Premium O.

237 Subscribers at 80 cents each, (or 125 at \$1 each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* \$75 Melodeons (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each, (or 105 at \$1 each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* \$60 Melodeons (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* \$45 Melodeons (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Time and Place of Fairs Wanted.

Some Agricultural Societies are talking of postponing their usual annual exhibitions this year. This is not wise, as a general thing; we need now as much as ever the advantages to agriculturists and households, of these annual gatherings. The officers, or members of the different State and County societies will confer a favor by sending to this office as early a date as possible, the time and place of the next exhibition, for publication.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE.
New-York, Tuesday Morning, June 18, 1861.

The following table presents a condensed view of the business transacted for a month past. These figures are carefully compiled from daily notes; our commercial reporter, who has had many years experience, spends the whole of each day in the market.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this month	579,400	3,820,000	8,197,000	36,450	69,600	363,000
25 days last month	334,000	1,122,000	755,000	19,850	98,000	317,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this month	386,500	4,168,000	3,304,000	40,700	21,000	
25 days last month	424,000	2,359,000	1,553,000	73,450	84,750	

By this month, we of course refer to the month running back 24 business days from this date. A glance at the above figures shows very heavy transactions in Bread-stuffs, both in receipts and sales. The 379,400 bbls. of flour received, is equivalent to 1,897,000 bushels of wheat, which added to the 3,820,000 bushels of wheat received, make a total of 5,717,000 or nearly six million bushels of wheat received in twenty four days. The receipts of corn have been very large also, running up to nearly 3¼ million bushels against ¼ million bushels for the previous

month. The Sales of Wheat and Corn have been correspondingly large, though wheat has been in greater demand than flour for shipping. The amount of wheat and flour disposed of, is equivalent to six million one hundred thousand bushels of wheat. Since the beginning of the year, the receipts at this port, mainly from the interior, have been very large, amounting in five months, from Jan. 1, to June 1st, to 1,163,000 barrels of Flour, (last year 885,000 bbls.); 4,246,000 bushels of Wheat, (last year 774,230 bushels); 3,208,000 bushels of Corn, (last year 2,828,000); 47,000 bushels of Rye, (last year 56,000 bushels); 442,000 bushels of Barley (last year 232,000 bushels); 648,000 bushels of Oats (last year 1,016,000 bushels). The Exports from this port, for the same period of five months ending June 1st, contrast still more remarkably with last year, thus: exports this year 959,000 barrels of Flour (last year 365,000 bbls.); this year 5,706,750 bushels of Wheat, (last year only 759,712 bushels); this year 4,084,000 bushels of Corn, (last year 924,000 bushels). Reducing the flour to wheat, we have exported from this City alone, in five months ending June 1st, 10,651,750 bushels of Wheat against 2,584,712 bushels last year, or an excess of 8,067,038 bushels this year. These are the official figures made up three weeks ago, and the excess has been largely increased since that date. The stock of Flour here at present, is very moderate, but the large current receipts, with the local production, are equal to the wants of buyers. The supplies of Wheat and Corn, especially of common and poor lots, are large. Though the export trade has been brisk during four weeks past, especially of Wheat and Corn, the very liberal arrivals have made holders eager to sell, and a considerable reduction in prices has taken place. A week ago, the marine insurance offices made an attempt to charge an extra war rate of premium, amounting to 5 per cent on all property shipped to Europe in American vessels, as it was apprehended that there was danger to our commerce in the partial recognition by Great Britain of the right of the Southern States to authorize privateering. This movement seriously disturbed the market, and, for a brief period, prostrated business completely. The "Underwriters," (as the chief officers of the insurance companies are called,) have since reduced war risks to 1 per cent, which is in addition to the usual rate of $1\frac{1}{2}\%$ at $2\frac{1}{2}\%$ per cent. Many shippers, however, are paying the usual rate only, as a protection against ordinary hazards, assuming the risk and chances of war themselves, as they entertain no fears of Southern privateering, especially since the whole Southern coast from Virginia to Texas is now effectually blockaded, and the latest advices from Europe place it beyond a doubt that the Great Powers of the old world will exclude privateers and prizes from all ports within their jurisdiction; it is, indeed, positively known that England and France have resolved to do so. This cause of anxiety having been removed, attention is now being generally directed to the growing crops, and the prospects of the harvest. The extraordinary condition of the country renders the question of an adequate supply of food one of universal importance. Fortunately, the exports from nearly all portions of the Union are quite encouraging, in this respect. The crops in the North and South, especially in the North, are spoken of, as being excellent. Southern accounts, however, complain of the damage which the army and cut worms have done to corn, but the injury has not been sufficient to give adequate foundation to the belief that the crop will be short, especially as a great deal more land has been planted this year than in any former season. The wheat in the extreme South is now about all harvested, and consequently, out of harm's way; but in Virginia, Kentucky, and Tennessee, it is yet susceptible of rust, and is liable to damage by weevil; but we have thus far heard of no serious complaints growing out of either cause. Grass in the North is uncommonly vigorous, and has passed all danger of being injured. But little, comparatively, of this commodity is raised in the South, and hay will be very scarce there, as the usual shipment of Northern bale hay to that region is precluded. The cotton, sugar, and rice crops we hear but little about, and can therefore give no idea concerning their prospects; but the reasonable inference is that they will all be short, except, perhaps, the yield of tobacco in Kentucky, owing to the peculiar position in which the States raising these articles have been placed. From a general review we are led to the opinion that with fair growing weather the rest of the Summer, the corn crop of the entire country will be greater this year than ever before; that wheat, rye, barley, and oats, will be fully up to the average, and that the production of hay will be unusually large. The Cotton market has not been active, but as arrivals have mainly ceased for this season, and the stock here has been reduced to a very low figure (less than 40,000 bales in all), prices have advanced slightly, and close with an upward tendency. Quite an extensive business has been transacted in domestic Tobacco, partly on speculation, at full prices. The prospect of protracted warfare in the South is regarded as lessening the chances of even a moderate crop. Sugars have recently risen in price and been in active re-

quest. Rice has been quiet. Provisions have been dull and heavy, though prices have been reduced materially. Hay has declined in value, having been in very limited demand. Shipments to the Southern States are forbidden, and holders have mainly to depend on the local consumption. The movements in other branches of trade have been restricted.

Exports from New-York, January 1, to June 12.

	1860.	1861.
Wheat Flour, bbls.....	397,358	1,038,453
Rye Flour, bbls.....	4,209	5,428
Corn Meal, bbls.....	42,588	41,433
Wheat, bushels.....	861,622	6,345,255
Corn, bushels.....	1,137,355	4,369,513
Rye, bushels.....	100	72,293
Barley, bushels.....	8,280	1,000
Oats, bushels.....	98,464	91,376

Receipts of Breadstuffs at Chicago, Jan. 1, to June 11.

	1861.	1860.	1859.
Flour, bbls.....	509,876	201,330	170,381
Wheat, bushels.....	3,861,900	1,587,425	1,175,253
Corn, bushels.....	6,862,155	6,569,931	2,030,241
Oats, bushels.....	367,358	508,987	302,491
Rye, bushels.....	152,658	58,790	22,646
Barley, bushels.....	259,980	183,636	111,571

The aggregate quantity of Breadstuffs left at tide water at Albany, from the commencement of navigation to the 7th of June, inclusive, during the years 1860 and 1861, is as follows:

	Flour, bbls.	Wheat, bu.	Corn, bu.	Barley, bu.
1860.....	155,520	1,008,084	2,996,744	73,013
1861.....	111,456	3,985,497	2,824,051	99,645
Decrease, 74,034 Inc.	2,977,413	Dec. 172,693	Inc. 26,632	

By reducing the Wheat to Flour, the quantity of the latter left at tide water this year, compared with the corresponding period last year, shows a gain of 521,448 barrels of Flour—equivalent to 2,607,240 bushels of Wheat.

CURRENT WHOLESALE PRICES.

	May 20.	June 18.
Flour—Super to Extra State	\$5.00 @ 5.25	\$4.50 @ 4.95
Superfine Western.....	4.05 @ 5.10	4.45 @ 4.60
Extra Western.....	5.15 @ 7.50	4.62½ @ 7.25
Fancy to Extra Genesee.....	5.40 @ 7.50	5.00 @ 7.25
Super to Extra Southern.....	5.75 @ 8.75	5.65 @ 9.00
RYE FLOUR—Fine and Super.....	3.00 @ 4.00	3.00 @ 4.00
CORN MEAL.....	2.85 @ 3.25	2.85 @ 3.10
WHEAT—Canada White.....	1.38 @ 1.57½	1.40 @ 1.55
Western White.....	1.35 @ 1.55	1.32½ @ 1.40
Southern White.....	1.45 @ 1.75	1.40 @ 1.50
All kinds of Red.....	1.14 @ 1.32	1.00 @ 1.30
CORN—Yellow.....	56 @ 62	46 @ 50
White.....	58 @ 62	46 @ 56
Mixed.....	53 @ 55½	36½ @ 45
OATS—Western.....	31½ @ 32½	28 @ 31
State.....	32½ @ 33½	31½ @ 32½
Southern.....	29 @ 31	Nominal.
RYE.....	66 @ 67½	68 @ 69
BARLEY.....	55 @ 70	50 @ 65
HAY, in bales, per 100 lbs.....	55 @ 90	45 @ 75
COTTON—Middlings, per lb.....	13½ @ 14½	11 @ 14½
RICE, per 100 lbs.....	5.50 @ 6.50	4.50 @ 6.50
HOPS, crop of 1860, per lb.....	14 @ 24	12 @ 22
FEATHERS, Live Geese, p. lb.....	None selling.	Nominal.
SEED—Clover, per bushel.....	8 @ 8½	None selling.
Timothy, per bushel.....	None selling.	do.
SUGAR—Brown, per lb.....	4 @ 6½	4½ @ 7
MOLASSES, New-Orleans, p. gal.....	30 @ 35	30 @ 35
COFFEE, Rio, per lb.....	10½ @ 13½	10½ @ 14
Tobacco—Kentucky, &c, p. lb.....	3 @ 15	4 @ 15
Seed Lent, per lb.....	4 @ 125	3½ @ 125
Wool—Domestic fleece, p. lb.....	23 @ 55	25 @ 55
Drestie, pulled, per lb.....	22 @ 38	22 @ 38
TALLOW, per lb.....	9 @ 9½	8½ @ 9
OIL CAKE, per tun.....	Nominal.	39.00 @ 34.00
PORK—New Mess, per bbl.....	17.25 @	15.50 @ 15.75
Prime, new, per bbl.....	13.00 @	10.50 @ 10.75
BEEF—Repacked mess.....	10.00 @ 11.00	8.75 @ 9.25
LARD, in bbls, per lb.....	11 @ 15	9 @ 12½
WATER, Western, per lb.....	12 @ 17	10 @ 15
State, per lb.....	13 @ 17	10 @ 15
CHEESE.....	4½ @ 9	3 @ 8
EGGS—Fresh, per dozen.....	8 @ 9½	12 @ 14
POULTRY—Fowls, per lb.....	12 @ 14	12 @ 14
Chickens, Spring, per pair.....	75 @ 1.00	62 @ 75
Turkeys, per lb.....	12 @ 14	12 @ 14
POTATOES—Per doz, per bbl.....	1.00 @ 1.25	1.00 @ 1.25
APPLES, Prime, per bbl.....	2.00 @ 2.50	2.00 @ 2.50
Medium, per bbl.....	1.50 @ 1.75	1.50 @ 1.75
Dried Apples, per lb.....	2 @ 3	2 @ 3
Dried Peaches, per lb, peeled.....	10 @ 12	10 @ 12
Dried Cherries, pitted, per lb.....	10 @ 11	10 @ 11
Dried Raspberries, per lb.....	10 @ 11	10 @ 11
POTATOES—Merch, per bbl.....	2.25 @ 2.62½	1.50 @ 2.00
Peach Blows, per bbl.....	3.00 @ 3.25	1.75 @ 2.00
Bermuda, new, per bush.....	4.00 @ 4.50	5.00 @ 5.50
ONIONS, New Bermuda, per bbl.....	-	1.50 @ 2.00
Onions, do, hampers, per bbl.....	-	1½ @ 2½
TURNIPS, New, per 100 bunch.....	-	2.00 @ 3.00
TOMATOES, Bermuda, 4-ft.....	50 @	50 @ 75
ASPARAGUS, per doz bunches.....	1.25 @ 2.50	75 @ 1.00
Asparagus, Oyster Bay, do.....	-	2.50 @
RHUBARB, per 100 bunches.....	2.00 @	2.50 @ 3.00

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been fairly supplied during the month, but more medium cattle could have been sold to neighboring graziers for further feeding. Pasturage is very abundant, and many farmers along the Hudson River and Harlem Railroads would buy cattle to feed, could they get them at about 4½¢. per lb, live weight, for smooth, good fleshed steers of 700 lbs each. The supply for 4 weeks past, numbered 16,796, or 4,199 per week—varying but little from the previous month. The demand usually falls off somewhat at the beginning of the strawberry season, but with some thousands of soldiers quartered near the City and others passing to the seat of war, the drain upon the New-York cattle market is heavy, and prices are as high as they were one year ago. The supplies for Washington and vicinity are sent direct from the West, for which government has been paying 8¢. per lb, live weight delivered. Prices at Forty-fourth street, ranged, at the last market, from 9¢. to 9½¢. per lb, estimated weight of the dressed quarters for prime bullocks; 8¢. at 8½¢. for fair; and 7¢. to 7½¢. for poor, with an average of 8½¢. for all kinds sold.

VEAL CALVES.—Receipts about as last month, or 1,013 per week. Prices rule low, say at 3½¢. at 4½¢. per lb, live weight, except for a very few extra fat calves which sell for 5¢. Trade dull. Most of the calves now sent to this market should be reared upon the farm.

SHEEP AND LAMBS.—Since the lambing and shearing season, sheep have come in more freely, the receipts being 35,103 for the month, or a weekly average of 8,776. With near 11,000 offered for the past week, the market was very much depressed and prices low. Good sheep sold at 4¢. at 4½¢. per lb, live weight, and medium stock 3½¢. Market over supplied. There is a fair demand for good Spring lambs at \$3.50 a \$4.50 per head.

LIVE HOGS.—Receipts have fallen off materially during the warm weather, only 5,570 per week coming in during the month, but the demand is small and prices have declined nearly 1¢. per lb.—good corn-fed hogs now selling at 4½¢. and still-fed hogs at 3½¢. per lb, live weight.

The Weather, until this week, continued cool and wet, making the season backward and discouraging to Northern farmers. Corn is small, but should we have settled warm weather, as now indicated, a bountiful harvest may be gathered. —OUR DAILY WEATHER NOTES, condensed, read thus: May 19, clear, fine, rain at night—20, rain—21, to 24, clear, fine—25, rainy A. M., clear, warm P. M.—26, clear, warm, heavy thunder shower at night—27, heavy showers, P. M.—28, clear, cool, rain at night—29, cool—30, 31, clear, fine.—June 1, 2, clear, warm—3, rain A. M., clear, hot P. M., thunder showers at night—4, showery—5, cloudy A. M., clear P. M.—6, very heavy rain, 2.80 inches water falling—7, cloudy A. M., clear and fine P. M.—8, clear A. M., showers P. M.—9, clear—10, clear, hot, 80° in shade, thunder showers at night—11, heavy thunder showers, with hail—12, to 15, clear, warm—16, showers, then clear and cool—18, fine, but cool. The amount of rain that has fallen at Washington Heights, this City, for 30 days past, measures 4.59 inches.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

MAY.									
1.....47r	8.....54	14.....54r	20.....48r	26.....56					
2.....34	9.....47	15.....55	21.....48	27.....60r					
3.....36r	10.....47r	16.....54	22.....50	28.....53					
4.....38r	11.....46	17.....47	23.....52	29.....51r					
5.....39	12.....50	18.....47	24.....51	30.....49					
6.....44r	13.....55r	19.....46	25.....52	31.....53					
7.....50	Average.....49								

JUNE.				
1.....56	4.....64r	7.....56	10.....62r	13.....64
2.....61	5.....57	8.....61	11.....66r	14.....60
3.....59r	6.....50r	9.....60	12.....65	15.....65

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Beyond all doubt or controversy, the circulation of the American Agriculturist to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at any and all times to substantiate this statement.

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BOOKS, etc. Salable by TRAVELLING AGENTS, in the
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Fig. 1—"GIANT WHEAT."

The above engraving, prepared for our March number, is an exact copy of one appearing in the English journals. Almost incredible accounts of productiveness of this Wheat were given, and we sent to our English correspondent to procure a quantity and forward for our distribution. Two bushels were obtained at a fabulous price, and we have been distributing it in small parcels for experiment. We should have sent the whole of it away, had we known just how many parcels would be called for, and how much could be put in each. The little now remaining we shall distribute, with another variety described below, as premiums. We do not credit the half that is said of this wheat, though the accounts are given in a leading agricultural journal, published where the wheat is grown, and where they might be easily exposed, if unreliable. But if this wheat prove a fourth part as valuable here as it is represented to be in England, it will be decidedly worthy of cultivation. The experiment will cost but little, and is worth a trial. If successful, those who raise the first seed in quantity will be ahead in this market.



Fig. 2—"HALLETT'S PEDIGREE NURSERY WHEAT."

We present in Fig. 2 a fac simile of an engraving of another variety of wheat, which was brought before the public in England, last Autumn. This engraving was placed beside a glass case of the heads, at the Show of the Smithfield Club, last year, and the public invited to compare them, and no one disputed the accuracy of the representation. Mr. Hallett states that a single kernel planted, produced 39 heads, containing 2145 kernels. As soon as we saw the statements concerning this Wheat, we at once sent for a quantity of it to add to our free Seed Distribution, notwithstanding the enormous price asked for it, but our Correspondent could only get a small lot. There was not enough to offer in the general distribution, and it was too costly for that purpose. We shall, therefore, reserve a little for our own experiment, and offer the rest that we have as a special premium, as named below. We can only say of this, as we have said of the "Giant Wheat," above, that the claims put forth for it are too large to fully credit; though it would seem to be of unusual value, and it will cost little to test it here. Mr. Hallett claims to have "bred up" this wheat from the size shown in Fig. 3, by careful selections from year to year. Those who obtain the specimens of this, or the giant wheat, or both, will do well to plant the kernels separately, in drills, in a good soil, to the end that as large a yield as possible may be secured, should these varieties prove worthy of future cultivation. Plant or sow at the usual time of putting in Winter wheat.



Fig. 3—AN ORIGINAL HEAD.

THE WHEAT PREMIUM.

To any one who will now procure and forward a new subscriber to the *Agriculturist*, at \$1 a year, we will send (post-paid,) a parcel of each of the above varieties of wheat—one parcel to contain, say about 400 kernels of the "GIANT WHEAT," and the other about 600 kernels of HALLETT'S PEDIGREE NEW WHEAT. This amount of seed (1000 kernels,) will produce a large supply for another year.

TURNIP SEED PREMIUM.

As this is the season for procuring turnip seed, and it is important to raise as many as possible this year, we offer a Special Premium of some excellent turnip seed, which will be particularly valuable to those who can not get a supply of good seed more conveniently or cheaper.

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year, we will present A QUARTER OF A POUND of the BEST TURNIP SEED. The seed will be forwarded free of charge, (post paid). This amount of seed will suffice to plant from one-fourth to one half of an acre, according to the care exercised in sowing.

For other Premiums, see last page of this number; also page 218.

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We have on hand a supply of two excellent paper files, made expressly to fit the *Agriculturist*, for the convenience of our subscribers who desire to preserve the successive numbers of this journal in regular order and ready for reference.

The first, and most perfect, is the Portfolio Cover, resembling a neat book cover, provided with cord, needle, and India rubber spring, by means of which the numbers are quickly fastened in, almost as firmly as if full bound. The covers are stamped, and have the name of the paper printed on. When one volume is complete, the numbers can be stitched together in a volume, and the cover used

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BAROMETER PREMIUM EXTRA.

The Barometer is very useful for the Haying and Harvesting season, to assist in foretelling the approach of storms. The one offered in our Standing Premiums, (page 218,) will be continued for this month, (July,) and for this month only, on the same terms as the Large Dictionary, viz: for 10 new subscribers now sent in at \$1 each—good money. The instrument is well packed for being carried anywhere with entire safety, by Express, or otherwise.

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Students furnish their own lights, mirrors, washbowls and pitchers, towels, soap, brooms, and, if they choose, curtains and carpets.

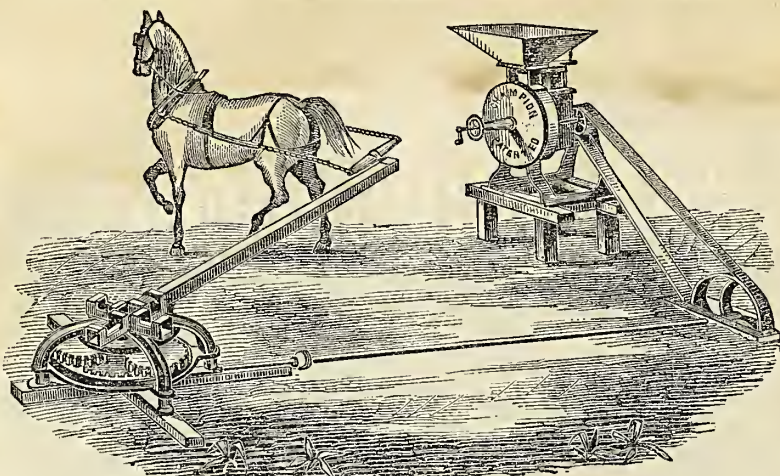
Young Lads and Misses who are not able to take care of their own rooms and furnish the necessary articles for them, will be taken on the following terms, viz: Board, washing, fuel, lights, common English, rooms furnished and taken care of by servant, and clothes mended, \$44 per term, or \$134 per academic year.

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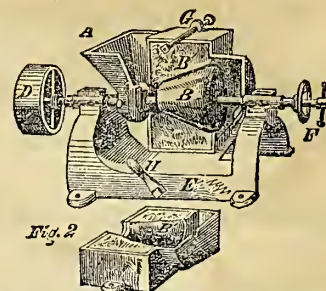
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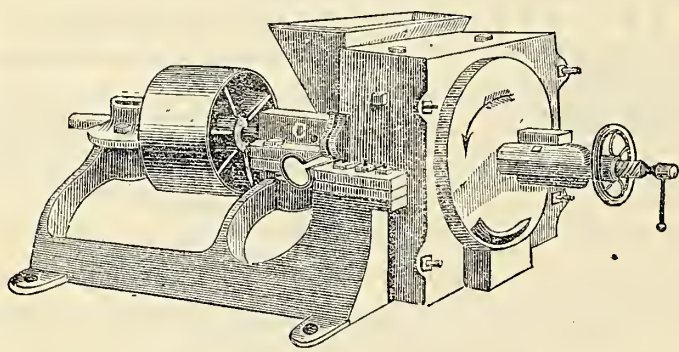
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They are the Mill for Saw Mills, as they grind well with: unsteady power, and with horse-power, will grind 8 to 10 bushels per hour, of corn, with two horses.

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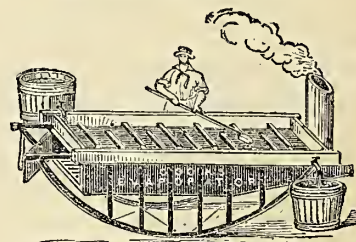
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"QUEEN OF THE SOUTH,"

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J. L. H. & CO.

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Week's (John M.) Manual on Bees.....	1 25
White's Gardening for the South.....	25
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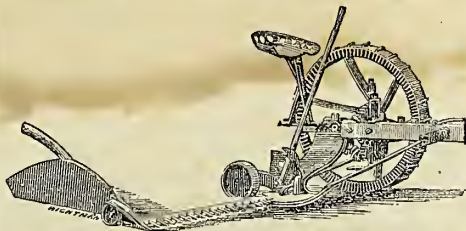
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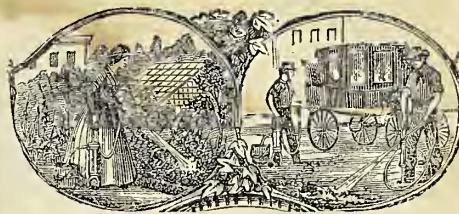
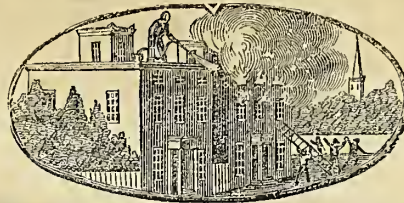
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Contents for July, 1861.

Agricultural Department at Washington.....	224
Agriculturist—Royal—Honor to.....	205
Analysis of Soils.....	206
Bees—Apilary in July.....	196
Boots and Shoes—Patent Leather Condemned.....	214
Boys' and Girls' Columns—Editor with his Young Readers—The "Scare-Crow"—An Incident of the War—A Young Patriot—A Farmer Boy's Letter—A Valuable Crop—Definitions of War Terms: About Gunpowder; Cannons; Projectiles—Problems.....	10 Illustrations. 216-18
Breakfast, Early—Advantages of.....	214
Buckwheat—Directions for Sowing.....	203
CALENDAR OF OPERATIONS FOR THE MONTH.....	194
Carts—Broad Tires for.....	206
Cattle—Blooded Stock sent to England.....	205
Cheese Making—Experience in.....	206
Cheese Making—Improvement in.....	206
Chufa—Information Wanted.....	204
Clover in an Orchard.....	209
Cooking Meals for Emergencies.....	214
Corn—Transplanting.....	200
Crop Reports—Reliable Wanted.....	224
Dioscorea Batatas Homeward Bound.....	Illustrated. 204
Draining—How to Drain—Tile Drains.....	10 Illus. 200
Exhibition—Worlds Fair in 1862.....	205
Fallow for Fall Crops.....	201
Farm Scenes—Summer—Illustration by Darley.....	208
Farm Work in July.....	194
Fires, Extinguishing—Important Hints.....	14
Flower Garden and Lawn in July.....	195
Flowers—Hanging Baskets for.....	3 Illustrations. 212
Fruit Gatherer—A Cheap and Convenient.....	Illus. 209
Garden—Kitchen and Fruit in July.....	195
Grape—New—The Skuunymunk.....	210
Grapes—A French Vineyard.....	210
Grapes—How to Start a Vineyard—Profits.....	209
Grass—Cutting next Year's.....	207
Green and Hot-Houses in July.....	196
Harvest Time.....	Illustrated. 208
Hay Mows—Air Ducts for.....	207
Haying Time—Hints for.....	207
Hedges—Osage Orange.....	211
Home—Poor Man's Plesant in the Country.....	211
Horses—Hair Oil for.....	205
Insect—Borer—Notes on the.....	209
Insects—Rye Fly.....	204
Ironing Apparatus Wanted.....	213
July—Suggestions.....	193
Manure—Lime for—Soil Analyses.....	206
Market Review, Weather Notes, etc.....	218
Orchard and Nursery in July.....	194
Pasture Lands—Hints on Improving.....	208
Picture Frames—Rose Leaf.....	212
Potatoes—Price for Seven Years in N. Y. Market.....	204
Poultry—Meat for Hens.....	205
Premiums for Obtaining New Subscribers.....	218-20
Preserving Fruits—Best Method—Strawberries—Cherries, Blackberries, etc.....	Illustrated. 215
Quince—Cultivation of.....	209
Seed—Exchanging—Does it Pay?.....	203
Sheep—Rot in.....	205
Sorghum—Notes on Cultivation, etc.....	203
Squirrels—Ground, Destroying.....	204
Strawberry Cultivation—Notes on.....	211
Tim Bunker on Breastworks.....	202
Vines—Cucumber and Melon—Watch them.....	211
Washing Day—A Clothes Dryer.....	3 Illustrations. 213
Wheat—Cessation of Exports—English Opinions.....	199
Wheat—New Varieties in Pennsylvania.....	202

INDEX to "BASKET" ITEMS.

Bees—Absconding.....	197
Books—American Short Horn Herd Book—Bee Books—Military—Surgery.....	197
Calves—Raising Late—Fatal Disease in.....	198
Cement for Bottles.....	197
Chess and Wheat.....	197
Dahlia from Seed.....	198
Draining and Transient Showers.....	197
Flagstaff—Douglass Pine.....	198
Flowers—Mammoth Poppy—Aloe.....	198
Grapes for Wisconsin.....	198
Green House on a Hill Side.....	198
Hay and Grain Caps—Try them.....	197
Hay Salting.....	197
Heifers—To Prevent Sucking.....	198
Horse—What is a Sound Animal.....	198
Humbug—Medical.....	198
Insects—Army Worm—Borer on the Plum Tree—Worms among Pot Plants.....	197
Insects—Hen Manure for—Cut Worms under a Plank—Ants injuring Peonies—Camphor for Pea Weevil—Currant Bush Borer—Apple Tree Insects—Lice—Scale on Osage Orange.....	198
Lotteries.....	197
Manure—Barn-yard and Lime.....	197
Manure for the Hauling.....	198
Manure Sheds Recommended.....	198
Milk—Depth of Pans.....	197
Mushrooms—Detecting Poisonous.....	198
Nasturtiums—Where to Plant.....	198
Periodical—"United States Mail".....	197
Pine Apple—Large.....	198
Poultry—Cure for Gapes and Cholera.....	198
Prairie Fowls on Long Island—In England.....	198
Rhubarb—New Seedling.....	198
Sheep—Sale of Jonas Webb's.....	197
Squashes without Seeds.....	198
Strawberries—Barren.....	197
Sugar—Maple—Crop in Vermont.....	198
Swine—Making Breeding Sows Docile.....	198
Tobacco Question in France.....	198
Trees—Apple Leaves—Blighted—Double Flowering Apple.....	198
Trees—Dwarf Apples—Pruning White Pine—Shortening in Peach.....	197
Water from Supa's Wells.....	189

Publisher's Notices.

[For other Business Items, see page 197—For valuable Seed Premiums, etc., see page 220—For Standing Premiums, see page 218.]

EXTRA BOOK PREMIUMS.

Our "Extraordinary Premiums" closed July 1st, but owing to depression in the book business, we have been able to secure a few valuable works at such prices, that we can offer them, for the month of July, on the terms named below. (N. B. Two new subscribers for half a year, say from July to December, inclusive, at 50 cents each, may be counted as one new subscriber at \$1.)

This is an excellent opportunity for all to secure good books at a very trifling outlay of time and effort.

All the books here offered, will be delivered to the recipient free of all charges. We shall send them paid through, by express, or mail, as may be most economical for us in each case.

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The sender will receive a post-paid copy of a capital work on **Onion Culture** (2nd Edition), which contains essays by 17 experienced onion growers, residing in different parts of the country—each one of whom gives full, plain, practical directions, from procuring seed to storing and marketing the crop, and raising seed-again; Or A copy of that interesting little work entitled

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For 16 New Subscribers at \$1 each, we will present that excellent, new implement, the **Hydropult**, which is very useful for throwing water to extinguish fires, water gardens, wash windows, carriages, etc. (See page 91, March No.) Price \$12. It weighs but 8 lbs., can be packed in small compass, and go by express at little expense.

Agricultural Department at Washington.

Our reference to this Department last month, page 189, has called forth several letters of approval from intelligent public spirited gentlemen who express a wish that the matter should be followed up. That there has been a great perversion of the funds appropriated to that Department, is not to be disputed. Take a single item as an example: For the large number of seed bags used, a party in Washington has been receiving \$4.00 per thousand, and the contractor has claimed that this was only for the making, not including the paper! We have obtained more than a million similar seed bags in this City, taking them in quantities as wanted, at considerable less than \$1 per thousand on the average. Comment is unnecessary. So much for the past. We have recently had a lengthy conversation with the new Superintendent

of the Agricultural Department of the Patent Office, Dr. Eric Locke, of Indianapolis, and after hearing his purposes and plans, we confess to a reasonable hope that there is to be a great change for the better, and we shall be ready to give full credit for all improvements made and good done. It is of course unfair to tax a new administration with the delinquencies of the past one, if a clean sweep be made of all former employees who have not proved themselves to be efficient and reliable. Dr. Locke, though personally unknown to us, enters upon his important labors with our heartiest good wishes, and unless we shall hereafter find cause for a contrary opinion, we shall be ready to believe that the Department under his care will become what it can and ought to be, an agency of vast good to the agricultural interests of our country.

Reliable Crop Reports Needed.

Our readers in various parts of the country will confer a favor upon the public generally, by furnishing careful, reliable reports upon the state of a few of the principal growing crops in their several localities. These reports should not be founded upon the condition of a particular farm, which may be better or worse from special causes, but refer to a whole neighborhood, town, or county, and, when practicable, be the result of a free conversation among a number of intelligent, observing farmers. The following are model reports, (filling in the blanks, and varying to suit each case):

July 5, — P. O., — County, Ohio. Reported by —.
Wheat—One fifth more sown than last year; slightly winter-killed; few insect ravages yet; condition rather better than this time last year. Corn—One-fourth more planted than last year; put back by wet Spring; nearly as promising as last year. Hay—An unusual growth, nearly twice as much as last year; Clover somewhat winter-killed. Potatoes—Planted full as largely as usual; appear well. Fruit—A fair show of apples; few peaches.

Aug. 10, — P. O., — Co., Ill. Reported by —.
Winter Wheat—about three-fourths last year's surface sown, and yield a little less per acre than last year, gathered in good condition. Spring Wheat—Nearly double last year's surface; midge not prevalent this year, army worm appeared in a few localities for the first time; yield about the same as last year. Grass—1½ times as large a yield per acre as last year; three-fourths gathered in good condition; one fourth damaged by wet weather. Potatoes—one-fourth more planted than last year put back by Spring rains. Fruit—Not much grown; apple trees about half full, growing finely; no peaches.

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N. B.—Hereafter, until further notice, sums of \$5 and upward, whether in gold, silver, bills, or stamps, can be sent to us through any office of the *United States Express Company* (and this company only), at our expense.

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{ SINGLE NUMBER, 10 CENTS.

VOLUME XX—No. 8.

NEW-YORK, AUGUST, 1861.

NEW SERIES—No. 175.

Office at 41 Park-Row, (Times Buildings).
Contents, Terms, &c., on pp. 252-56.

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American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



August.

"Here then each worm, each caterpillar place,
His son, gay upstart, blushing at his race;
Insects of every rank, of every dye,
That dwell in marshes or in flow'rets lie;
Or those that, digging for a secret dome,
Deep in the budding leaf have fixed their home;
The fruit-trees' foe, or worm more murderous still,
Whose living foes the human bosom fill;
The spider too whose webs our walls o'erspread;
The fly that builds, or spins the fine drawn thread;
Those in whose golden web their tomb is wove;
A nose that in secret, light the torch of love;
The fly, whose life throughout the year extends,
Or given at morning, with the evening ends."

"DELILLE'S COUNTRY GENTLEMAN."

The dog star rages, and every living thing swelters in the Summer heat. Cattle seek the shade, or plunging into the cooling stream, stand knee deep in the water, brushing their sides with moistened tails. Thus they hold the clouds of mosquitoes and flies at bay, and guard themselves against their tormentors. Swine roll lazily in the mud, coating every bristle with the thick ooze, and smothering another race of insects quite as terrible to them. Fowls lie leisurely in the shade, throwing dust over every feather, and

shaking it down over every part of the skin. Ducks and geese sit upon the river's brink, industriously rubbing their oily bills over every part of the body, making the feathers proof against the eggs of insects, as well as against rain. Every animal and plant has its parasite, and the parasitic races and all the tribes of insects are now in their prime. Life would be too dull in these hot calm Summer days, were it not for these minute creatures filling the air with the hum of their varied music.

The meadows are mainly stripped of the burden of grass that covered them a few days ago, and you notice the traces of the mower and the width of his swath. He has uncovered the homes of myriads of insects quite as beautiful, quite as full of the wisdom and goodness of the Creator, as the grasses and flowers that flourished above them. Now the air is pierced with the shrill note of the locust, and now the song of the grasshopper and the chirp of the cricket fall on the ear. They swarm in countless multitudes among the stubble, and every advancing step drives a fugitive host before you.

We complain of the insects as enemies, and in their present number, and our own want of skill, they are among the most formidable obstacles with which the husbandman has to contend. The arrangements of Nature have been interfered with in the advance of civilization, and the harmony once existing between insects and other tribes of living things, has been destroyed. But even the most destructive of these races has its use, and the world could not get on without its labors. We need to direct these labors rather than to exterminate the laborers. If man did not interfere with the arrangements of Providence, they would all be kept in harmonious balance, and every tribe of living things would be seen to accomplish more of good than of evil in its labors. Man has disturbed this balance in various ways. The trees and shrubs which were designed as the food of insects have been cleared away in the march of civilization, so that not a tenth part of the original pasture ground of the insect tribes is left in the older States. Forests have been cut down, and swamps drained, and the tiny inhabitants that once sung and sported in the unbroken wilderness, are forced to seek their living in grain fields and meadows. At the same time, the natural enemies of the insects, which were designed to keep them in check, have been almost exterminated. The wild animals that derived a large part of their subsistence from insects, have mainly disappeared with the forests. The birds also, which are our best safeguard against their undue multiplication, are considered lawful game by every vagabond that can carry a gun, and by every cat that ought to catch mice and rats.

We have, too, not only the insects native to our forests, but those of other lands introduced by commerce. These have come in grain sacks,

sometimes in straw, or again in seeds, and upon plants brought hither for cultivation. Providence has furnished abundant checks to the multiplication of these creatures, and we have only to study their habits, to learn how to keep them within due bounds.

As yet, the science of entomology has had but few admirers in this country. There are very few who have had the time and patience to follow these creatures through their various changes, to study the times and methods of their reproduction, and the best means of circumventing them. There is beginning to be felt, however, a need of this knowledge as indicated in the numerous inquiries in our agricultural and horticultural journals. Close observers upon the farm are learning how to save the cereals from their depredations, and pomologists are publishing their remedies for the ravages of insects among their fruits. There is great need of a wider range of observation, and a larger class of students who shall closely investigate the habits of these insect tribes. This is a work in which our young readers, especially the boys, might engage with great profit to themselves, and with a fair prospect of usefulness to the community.

A cabinet of specimens is indispensable to the prosecution of the study of entomology, and these every student might gradually gather for himself. If, for instance, we had a few eggs of the silk worm, a well grown specimen as he feeds upon the leaves of the mulberry, a cocoon upon the branch where it was spun, and a pair of millers, we should have before us, at a glance, a pretty correct view of this insect. Every worm, bug, and butterfly, with which we come in daily contact, has a similar history worthy of our investigation. It would not take a very large cabinet to make us familiar with those which prey most upon our labors. Specimens of insects are much more easily preserved, than those of birds and the larger animals; and the expense for the material of preserving them, would be within the reach of most farmers' sons. The habits of careful observation fostered by such a study, would be invaluable to the boy, whatever might be his future calling.

One of the best methods of keeping insects in check upon the meadow, and which is appropriate to the season, is liberal top-dressing with compost or stable manure. As soon after the mowing as is convenient, compost is spread at the rate of twenty loads or more to the acre. Those who adopt this course, give as their reasons, that ammonia is offensive to insects, and they are much less liable to deposit their eggs in a recently manured meadow than in a clean stubble; and that the manure makes stouter plants and more of them, so that the traces of the eating of worms are seldom seen in rich meadows. Facts generally prove the theory.

Others have great faith in the plow as a de-

stroyer of grubs. All their lands, destined for hoed crops are plowed late in the Fall and the burrows of a multitude of insects and their eggs, are thus turned up to the Winter frosts. But the most efficient helpers in this warfare are the birds. Some of them find their principal food in bugs and worms, and were they protected by the farmer, and allowed to multiply, they would guard his crops effectually from insect ravages. They should be welcomed to his orchards and meadows, and copses of evergreens be planted to shelter them, where they have not sufficient protection. They soon learn their friends, and congregate in the places where no robber molests, and no gun makes them afraid.

Calendar of Operations for Aug., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by allowing for latitude.]

Explanations.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm*, or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The first work of the month in this latitude will be to secure the remainder of the hay and grain crops, if any are yet uncut. Each day's delay after these have attained their proper degree of ripeness, causes loss in quality and quantity, by the shelling and waste of the grain, and the hardening of the fiber of grass. The interval between harvesting and preparing for Fall sowing, affords a favorable opportunity for draining, *drawing out muck*, clearing up hedge-rows, repairing buildings, mending roads, and other miscellaneous work which has been deferred because of other pressing operations. Now is the time to purchase additional stock for Fall feeding and fattening, if there be not enough on the farm to profitably use up the grass, grain and fodder produced. It is usually more profitable to consume raw products upon the farm, than to sell them as they come from the field. The manure, if properly cared for, will keep the land from deteriorating, and grain is more readily transported and as readily sold in the form of beef, mutton and pork.

Barns and Sheds need ample ventilation after being filled with hay and grain. Leave the large doors open in fine weather. Keep the fowls from laying upon the hay, or trespassing on the grain mows. Thresh and clean all scatterings. Examine the roofs for leaks, and repair if necessary. Painting is better deferred until cooler weather.

Butter—Observe directions given last month. Where a large quantity is sent to market, it would pay to cool it well in the ice house and pack the tubs or pails in large boxes, and surround them with fresh cut grass, which would preserve the butter from softening by the heat.

Cattle—It is poor economy to keep young stock or those intended for Fall fattening upon short pastures. Plenty of grass now will be a saving of grain hereafter. Milch cows also need generous fare: feed them from the soiling patch, if one was sown—or if necessary, allow a daily treat of bran or shorts mixed with water and partly fermented.

Corn—The roots should not be disturbed now by plowing. If weeds are troublesome, pull them by hand, or hoe the surface lightly. Authorities are divided as to the propriety of removing the suckers. It would seem that the grain would be better if the strength of the plant were directed there by removing superfluous growth of stalks. Experiments are needed to determine the truth in the matter.

Draining—Read the articles now in course of publication, and reduce to practice what may be applicable to your circumstances.

Fallows or "Summer Fallows" should not be allowed to grow and ripen weeds whose seeds will be scattered in the soil. The harrow will generally destroy those growing, but a few will still be left, unless pulled or cut by hand. Remember that weeds produce seeds by the thousand each.

Fences—Remove all hedge-rows of briars, bushes and weeds. Lay new lines of wall where needed. Keep all in good repair.

Gleaning—Many bushels of grain will be saved by passing over fields with the horse-rake after the grain is gathered.

Grain—Thresh as early as can be done conveniently; commence with the stacks. It is usually better to sell as soon as the market is fairly fixed. Use all that can be turned to account in fattening stock.

Hay—Cut, *ff*, any remaining until now. Gather coarse wild grasses for bedding. Secure salt marsh hay and sedge, *m, l*, during the low tides of August, and remove to safe quarters. Surround stacks with good fences to keep cattle from wasting.

Horses—Confine them in well ventilated stables during the heat of the day, and turn them in the pasture on warm nights. Breeding mares should not be overheated while suckling their foals. Accustom colts to be handled while young.

Insurance—Keep barns and other out-buildings insured, as well as the dwelling. Large accumulations of hay or grain send up a column of vapor which attracts lightning and exposes them to be destroyed, unless protected by lightning rods.

Manure—Read the article on Muck, page 234. Turn every source for making manure to account. Mow swales, gather roadside weeds, burn brush heaps, clear out privies, sluks, and sheds, etc., and have a large supply in readiness before fall plowing commences.

Meadows—Remove bushes, rocks, and other obstructions from mowing lands. Top dress new mown lands with fine compost, to protect the roots from scorching, and quicken the young growth. Keep stock from meadows until the grass is three or four inches high, and do not allow it to be eaten off very close.

Millet or Hungarian Grass—Cut before the seed ripens, if intended for hay.

Oats—Cut, *ff*, or as soon as sufficiently ripe. Cure the straw carefully: it is valuable for feeding.

Pastures—Occasionally scatter cattle droppings with a maul. Mow weeds frequently, allow none to ripen seed. Sow salt about their roots, to attract the cattle and sheep, and prevent the young shoots springing up. Suffer no fields to be fed too closely.

Potatoes—Early sorts may be harvested as soon as mature, and a crop of quick growing turnips or late cabbages put in their place.

Poultry—Allow them to glean the grain fields after harvest. If confined to the yard, give plenty of water and occasionally a little animal food, to stimulate them to lay. Fatten chickens and ducks for market early; it takes less grain in warm weather, and the prices are more remunerative.

Root Crops—Thin turnips sown last month. Keep the ground light and free from weeds by frequent use of the cultivator and hoe.

Rye—Harvest, *ff*, any remaining. Glean the fields with the horse rake, and thresh out the scatterings for grinding and feeding to hogs. Select the best growth for seed, and thresh with a flail before wanted for sowing.

Sheep—Separate males from the ewes and give the lambs a rich pasture by themselves or with the yearlings. Keep a few older sheep with them as leaders of the flock. Examine the udders of ewes while weaning their lambs, and draw the milk occasionally if necessary to prevent their becoming caked. Salt freely, and apply tar to their noses to repel the fly.

Swine—Keep them growing by liberal feeding. Commence fattening, *ll*. Early pork is usually in demand, and it costs less to make it. Feed with green food frequently. Unthreshed pea vines are well relished, and are wholesome diet.

Timber cut at this season is believed to be most durable. Prepare any needed for fencing or building next season.

Timothy sown by itself, *ll*, will ordinarily give a good growth next season. If sown with Winter grain, leave it until next month or the following Spring. Use from eight to twelve quarts of seed per acre, according to circumstances.

Turnips—Strap leaf, or flat varieties, may be sown, *ff*, among corn, after early potatoes or on other unoccupied ground.

Winter Grain—Prepare grounds, to be sown early next month. It will succeed on sod ground, but preference is generally given to cultivate it after oats, or an early hoed crop, as potatoes.

Orchard and Nursery.

There is little to do in the orchard, during August. Some of the early apples, pears and peaches will be ripening. These should be gathered and marketed, dried, or bottled for Winter use. Now that preserving bottles are so cheap, and the process of putting up fruit so easily understood, it is well worth while to secure a good supply for Winter and Spring use.

Pruning at this season injures the tree far less than if performed in the Spring, and if neglected last month, attend to it early in August. Pruning fruit trees now is objectionable on account of the danger of knocking off fruit from other branches than those removed. Trees may, and should be so trained that the knife only is now needed.

In this section, trees are not overburdened with fruit the present season. Where there are many apples on young trees, and especially pears on quince stocks, it is better to remove a portion. The remainder will be much finer, and the trees kept more thrifty for this thinning. Better remove all except one or two specimens from trees set last Spring. The tree has enough to do to retain a healthy action in the drouth of Summer, without the additional burden of ripening fruit.

Borers have hatched out and penetrated the bark of apple and peach trees, unless the trunks were washed with an alkaline solution, or protected by paper or other sheathing. Search for and destroy them before they penetrate the wood, which they will do next Spring if unmolested. Wash the trunks of young trees with potash water or oil soap, to destroy scale and other insects upon the bark.

Budding is in order in the nursery. Follow it up as fast as the stocks are ready and the buds mature. A few days' delay, especially with pear stocks, may lose a season's growth, as the bark frequently "runs" but a short time. See that no mistakes are made in selecting buds, and label each row plainly, noting the sort in an index book kept for the purpose. Round off stocks budded last season unless already done.

Evergreen Trees are frequently transplanted with success, from the middle of August to the middle of September, though we prefer doing it in May. If done during this month, choose a damp day, remove a ball of earth with the trees when practicable, water them if at all dry, and mulch the earth around the roots.

The growth of the present season is now sufficiently mature for layering, or inarching, to increase or change the variety. Peg down and cover with earth the new shoots of propagating stools, and tie the branches of inarched stocks to stakes, or other supports to prevent shaking about by the wind.

Those trees or branches grafted in this way last season, which are now firmly united, should have the native shoot cut away *above* and the propagating stock cut *below* the junction, at the same time loosening or removing the bandage.

Artificial watering will be needful for boxes and beds of seedlings, transplanted stocks, etc., during dry weather. Throw a spray, like a shower from a hydropult, garden engine, or syringe, or sprinkle from the rose of a common watering pot. Do not let the choice evergreens or other plants droop before giving them water. A little labor will often keep a tree or shrub in a healthy growing state, when it

would be difficult to revive it after wilting begins.

The plow, cultivator, or horse-hoe, should be run through the nursery rows frequently, to keep down weeds and lighten the soil. The hand hoe will also be needed to work closely about the trees.

Seedling trees of all kinds should be kept free from weeds. Partial shading with screens made of slats, or with branches of trees is beneficial, particularly with evergreens.

Kitchen and Fruit Garden.

It should be the aim of the gardener to make the most of the limited space of ground usually devoted to this purpose. In addition to stimulating the plants to their most vigorous growth and fullest production, by judicious manuring, watering, pruning, etc., much may be gained by keeping the whole space occupied. Two crops in a season can be taken from much of the ground. Early peas and potatoes may now be succeeded by turnips and late cabbages, and later crops can be replaced by spinage and other plants to be protected in Winter.

There should be no waste of ripened vegetables. If any surplus of peas, beans, tomatoes, etc., etc., can not be marketed, they can be preserved in bottles or cans for Winter use—especially tomatoes.

Asparagus—Gather and clean the seed as it ripens, and sow at once if new beds are needed. Time is saved, however, by setting out roots in Autumn. Keep weeds from encroaching on the beds.

Beans—The young pods of bush varieties are excellent for pickling, and they may also be kept good for the table by packing in salt. Plant a few, *f*, for a Winter supply.

Beets—In pulling for use, take them from the thickest parts of the bed, to allow the remainder plenty of space. Keep the ground well loosened and free from weeds. Mark by small stakes the earliest and best to be saved for seed.

Blackberries—Pick as fast as fully ripened. Any surplus may be dried, preserved in bottles, as directed on page 215 (July No.), or manufactured into wine according to recipe on page 247.

Cabbages, Cauliflowers, and Broccoli—Hoe often around former plantings; no plants receive more benefit from frequent stirring of the surface—once or even twice a week is none too often. Set out plants, *f*, for a late crop, and sow seed, *f*, *m*, for Fall greens, and keeping in cold frames.

Celery—Set out remaining plants for bleaching, *f*. Transplant carefully, with plenty of soil attached to the roots. Earth up former plantings when sufficiently high. Good celery may be grown above ground by surrounding with boards and filling around the plants with earth or sawdust to blanch.

Corn—Mark the earliest and most prolific stalks, to be preserved for seed. Examine to prevent depredations of the corn worm which eats downward from the silk to the kernels.

Cucumbers—Gather as they attain proper size. If not wanted for immediate use, put them in pickle. See recipe for pickling ripe, p. 247. The yield will be increased by not allowing them to ripen. Reserve the best for seed, and remove all other buds from vines that are set apart for ripening seed. When a sufficient quantity of fruit is set, nip off the ends of the vines.

Currants and Gooseberries—Prune as soon as the fruit is gathered. Remove from one third to one half the old wood, and shape to tree form.

Egg Plants—The growth and ripening of fruit will be hastened by placing a board painted white on the north side of the hills. Hoe well; hill slightly.

Espalier Trees—Keep well trained and pinch off superfluous growth.

Grapes—Tie the leaders to the trellis. Where the ends of the bearing branches have been pinched off as directed last month, the side shoots will need to be shortened in, *f*. Destroy insects by hand picking.

Herbs—Complete gathering and drying, *f*, *m*, or during the period of blossoming.

Hoe as may be needed to keep the surface loose and to destroy weeds.

Hops—Pick during dry weather as soon as they attain sufficient maturity; spread until perfectly dry and store in bags.

Lettuce—Sow in vacant corners for Autumn use.

Melons—Restrain the growth of vines by pinching off the ends. By removing all fruit except three or four specimens to each vine, those remaining will be larger and of finer flavor. As the melons approach maturity place a layer of straw, or a board under them to protect from worms; occasionally turn them to ripen equally on all sides, but do not injure the stem.

Onions—Gather for use or for market as they ripen, but if to be kept for any length of time, leave them exposed to the sun until properly cured. Sow, *l*, for "pips" to be left in the ground during Winter for early use next season.

Peas—Clear the ground from straw of early crops and feed it to swine. Fill the vacancy with turnips, or late cabbages, lettuce, onions, etc.

Potatoes—Harvest and market early crops, and replant the ground as directed above.

Raspberries—Remove bearing canes as soon as fruiting is over, and take out all except two or three of the strongest young shoots; the latter will yield the crop next year. Keep them properly trained to the stakes or trellis. Hoe in a compost of well rotted manure and ashes.

Seeds—Save the earliest and best of all kinds. Collect as they ripen, or the best will be lost. Label each sort distinctly, with the name and date of raising; keep in a dry, dark place secure from vermin.

Spinage—Sow, *f*, *m*, *l*, for Autumn use, and *l*, to remain over Winter.

Squashes, Summer—Gather and use or market before they harden. Leave the earliest for seed. Remove eggs of the squash bug (*Coreus tristis*) from leaves, and destroy the insects already hatched out.

Strawberries—Read articles on pages 241, 242. Clip the runners of those in hills, as they appear.

Tomatoes—Continue to trim the vines as directed last month. Destroy worms by hand picking.

Turnips—Sow flat or cow horn varieties, *f*, among rows of corn and in other unoccupied places.

Water plants which are ripening fruit if there be drouth. Give a thorough drenching occasionally at evening, rather than frequent sprinklings.

Weeds—Every one which ripens seed makes additional labor for the gardener next year. Take time by the forelock, and make them useful in the compost heap. Those whose seeds are nearly ripe, should be burned.

Flower Garden and Lawn.

August is usually the most trying month for the florist. The powerful sun with the foliage, dries up the plants, and shortens the period of flowering. Many plants set late in the Spring, die from drouth this month, unless artificially watered. In extensive grounds it is a laborious operation to go over the flowers, shrubbery, and lawn with a watering pot. The city and large village gardens can usually be sprinkled with the hose attached to street or family hydrants. A large garden may receive an occasional artificial sprinkling with a portable hand or force pump like the hydro-pult. A simple watering pot will suffice for a small plot. Caution is needed against the too free use of water. Every showering cools the ground, and keeps it cool by evaporation—a free use of the watering pot will keep the ground cool much of the time. Plants do not need to be kept continually wet. Try the soil by digging into it; if moist within two or three inches of the surface, it is not suffering. Give a liberal watering when needed, rather than frequent light sprinklings; select the afternoon or evening for applying it. In watering evergreen or other trees, remove a little of the surface soil, water plentifully and replace the soil, which will then remain light and porous.

Now is the time to note the peculiarities of new plants, their habits of growth, form and color of

flower, etc., and to mark those specimens from which it is desirable to save seed. A small string or piece of bass matting tied to the plant indicates that it is intended for seed. As fast as others complete their blooming season, cut them down if perennials, and pull them up if annuals, to give place to others. The value will now be seen of a previous suggestion to have late sown plants in the vicinity of, or ready to transplant to spaces otherwise vacant during the remainder of the season.

Some of the biennials and perennials, such as Sweet Williams, carnations, daisies, phloxes, nothocks, polyanthus, campanulas, etc., will be ripening seed this month. Gather and sow the seed now, and a bloom may be had next season.

Budding—This is a proper time to bud the rose, but the practice can only be recommended on a small scale and for amateurs. The buds often die out in a few years. Oranges, lemons, magnolias, and many of the flowering shrubs may also be budded, *f*, *m*.

Bulbs—Read article on page 245.

Climbers—See that cypress vine, cobæa, convolvulus, cardiospermum, tropeolum, corydalis, loniceræ, etc., are provided with suitable supports and properly regulated.

Dahlias should now show a fine bloom of choice colors. Keep well tied up and prune where growing too thickly. One, or at most two good flower stalks, per root, is sufficient. Frequent waterings and a mulch about the roots in dry weather will benefit them. Cut away the dried flowers as fast as they lose their beauty. Watch for and destroy insects, especially the greyish worm which bores into the stalk and feeds upon its juices.

Fuchsias trained singly as standards or set in masses, always give pleasure, the unique form of the flower being universally admired. Their continuous bloom is also in their favor. We regard them as among the finest gems of the flower garden. The stock may now be increased by cuttings and layers.

Hedges should receive their final Summer clipping during this month. Cut from the top. If trimmed late in the growing season, the new growth will not sufficiently mature before Winter.

Hocings should be continued as directed last month.

Houses—If any are to be built this season let them be constructed this month, or during the next. Make needed repairs or alterations in those already built. A cold house for grapes and other hardy plants can be built at a trifling cost, usually a lean-to against some other structure.

Insects—Do not let them increase by a second crop, at this season. Even if they have done all their injury for the season, allow none to weave their cocoons for propagating next year.

Layers of many of the woody plants can still be made with a probability of their rooting before Autumn. Use wood of the present season's growth. Shoots laid down in early Spring, if well rooted, may now be severed from the main stock.

Lawn and Grass Edgings—Mow evenly when 6 to 8 inches high. Frequent cutting causes it to thicken at the bottom. A sprinkling of guano water, or liquid manure, after cutting, will cause the grass to start with vigor. New lawns may be sown, *f*, adding a little Winter wheat, or rye, to protect the roots during the Winter.

Mignonette will still bloom late in the season, if sown, *f*. It will also form good house plants for Winter flowering.

Pelargoniums—Start cuttings, *f*, *m*, for a Winter stock to bloom in-doors. Thin out and head back plants to give them a good form.

Potted Plants will need care at this season. Water frequently and loosen the surface soil removing weeds and moss. Pot off a good stock of the various plants intended for early Winter flowering.

Pruning should have been mostly completed last month according to directions there given. See desirable forms of trees, pages 240 and 241.

Roses—Budding may still be performed on late growing sorts, and layers of new wood pinned down. Continue to apply the slug preventive as long a

there is any necessity. The remountants should now show a second bloom.

Verbenas, though common, have no superiors as bedding plants. The past few years have added many new seedlings, some of remarkable beauty, and others quite *fragrant*. Keep well pegged down, and layer a stock for Winter flowering.

Weeds—Keep from the borders, walks, and also from growing among the grass upon the lawn.

Wild Flowers—Many of these are now in bloom. Note the desirable kinds and mark the spot where they are to be found, to be transplanted at the appropriate season. The peculiarities of soil, shade, moisture, etc., where they grow naturally, should be borne in mind for future guidance.

Green and Hot-Houses.

Scarcely anything need be said with reference to these, more than to cite the directions of last month. As most of the ordinary house plants are now in the open ground, they have been referred to above.

A good supply of potting earth should be prepared, both for present and future use. It is better after having lain in the heap some months, hence a large stock should be provided. A good potting soil is made of 3 parts leaf mold, 1 part loam, 1 part sand, and 1 part old manure.

Houses should be put in readiness to receive tender plants the latter part of next month. It is always better to have any painting done some weeks before plants are brought in.

A good stock of cuttings of various kinds, intended to form late Fall and early Winter flowering plants, should now be put in and properly cared for. A house, or frame is needed to start them well.

Potting should be attended to now, that the plants may be ready for an early Winter bloom.

Apiary in August.

Prepared by M. Quinby—by request.

Bee keepers the present season, taking Montgomery Co. as a sample, will have a difficulty to contend with, just the reverse of the one last year. The bees then obtained too little honey, this year too much, at least, for their future prosperity. So great a portion of their combs will be filled with honey, that the number of cells left for breeding will be insufficient to keep the colony in its usual strength. This will be the case should there be no unusual change in the yield of honey this month. The remedy is at hand for those having the movable combs. It is simply removing one or more outside, or any other combs that may be filled with honey throughout, and substituting empty frames, or frames with empty combs. Make room for them near the middle, by moving those in the center outward. The full combs can be set away, and given to any late swarms that do not obtain sufficient winter stores, or, if the colonies from which they were taken, have not enough, they may be returned. When not wanted thus, save for the table.

"Buckwheat swarms" are liable to issue from the 10th to the 25th of the month in many sections. In such cases I have usually advised taking away the queen, and returning part or all of the bees to the parent stock. When an increase of stocks is desired, and surplus combs like the above can be had, these late swarms may be hived, and made safe for winter stores, by adding one or two of the full frames, after they have finished their season's work.

Small swarms that have only half filled the hive, will suffer more from the moth worm than full swarms; they should be looked to often. Stocks that have over-swarmed, or are queenless, are sometimes ruined before it is suspected; the worms work out of sight among the combs, unmolested by the bees. The indications are, fine powder, like specks on the floor; they need a little examination to distinguish these from the elips of wax that will also accumulate. These infested hives must be re-inforced, or some of the combs must be broken out, leaving only what the bees can protect. Should these remedies fail, take out the bees, and save the contents, before all is destroyed, and a swarm of moths matured to molest other hives.

Boxes taken off early must be watched, to keep the worms from spoiling the combs. When they are first hatched, their course is marked by a white thread-like line. Subject them to the fumes of sulphur to destroy them. They must be kept dry, and in a cool place when possible.



Into which are thrown various useful or interesting Items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Premiums for August.—Many of our distant readers will be interested in the Publisher's offer of Premium Strawberry plants on last page. Other premiums of books on the same page, and of new wheat, on page 255, are continued this month. The standing premiums are omitted to save space. Those interested will find them in July number, page 218.

The Prize Articles, called for on page 231, will need, and we trust receive early attention. The time allowed for preparing the first three, is necessarily very short, but we desire the information for our October issue.

The Household Department appears to be specially valuable this month. We again solicit our lady readers to contribute useful matter for that part of paper.

Two Good Schools.—We neglected last month to call attention to the advertisement of the *Fort Edward Institute*, as we intended to do, but it was perhaps unnecessary, as we have before spoken of the School and its Principal in the highest terms. We now desire also to strongly commend the *Ellenville High School* or Seminary. We are personally and intimately acquainted with the Principal and Preceptress, and can assure our readers that those who place their children under their care, will intrust them to kind, faithful, Christian Teachers, who will spare no effort to improve them morally as well as mentally. The full particulars as to terms, etc., can be readily obtained by sending for a Catalogue or Circular, as per announcement in the advertising columns.

Feed for Horses.—*Important Experiment.*—The London Omnibus Company use 6000 horses. A recent report states that 3000 of these, fed daily on 16 lbs. of bruised oats, 7½ lbs. of cut hay, and 2½ lbs. of cut straw for each horse, *did as much work and kept in as good condition*, as the other 3000 which were each fed with 19 lbs. of unbruised oats, and 13 lbs. of uncut hay, per day. Calling the 2½ lbs. straw equivalent to 1½ lbs. of hay, and the saving is 3 lbs. of oats and 4 lbs. of hay per day for each horse. Thus, then, the mere bruising of oats, and the cutting of hay effects a yearly saving for each horse of 34 bushels of oats, and 1,460 lbs. of hay! These experiments, made upon so large a number of horses, and continued for a considerable length of time, are very conclusive, and forcibly indicate the advantage of what has been so often urged in the columns of the *American Agriculturist*, viz.: the grinding or crushing of all grain, and the cutting of all hay and other forage fed to horses. The same thing will be found partially true of other animals, though the ruminants—neat cattle and sheep—masticate their food more in chewing the cud, and hence the bruising of oats or other grains is not so important for them as for horses and swine.

Good Prices for American Cattle.—The animals taken from the Thorndale herd, to England, to fill orders received by Samuel Thorne, Esq., their owner, were sold at the following prices, according to the London Agricultural Gazette. 2d Duke of Thorndale, \$2,000; 3d Duke of Thorndale, \$1,500; 4th Duke of Thorndale, \$2,000; Thane of Oxford, \$1,250; Imperial Oxford, \$1,000; Lady of Oxford, \$1,250; Hero of Thorndale, \$1,000; in all \$10,000, which equals the sum paid by Mr. Thorne several years ago for their sires, the two Grand Dukes.

The Clothes Wringer.—Mrs. J. F. Sawtell, of Worcester Co., Mass., writes July 4th: "The Clothes-Wringer received as a premium for obtaining subscribers to the *Agriculturist*, I like very much indeed, and wish to strongly recommend it to the lady readers of the *Agriculturist*, and advise them by all means to get one, and thereby save much time and strength. Though much has been said in its favor, none too much has been said. It is everything I expected, and more... My little girl, not quite 8 years old, often wrings my clothes for me, and likes the fun... My husband at first opposed my choosing this premium, for he is one of those on the look out for humbugs, but he is as much pleased with it as I am, and thinks it a great saving of time and hard labor...." [There is no mistake about the value of this implement, and we intend to keep talking about it until every housewife in the land shall be the possessor of one. It not only saves much hard work, but it also saves garments much more than its cost. Perhaps it can be got through the Publisher's Premiums, see page 218, July No., as cheaply as otherwise.—Ed.]

Choking of Tile Drains.—C. C. Simpson, Kent Co., Md. Well laid tile drains are in little danger of choking. If they have a uniform grade—no depressed places—the fine earth filtering in through the joints will be carried off. The greatest danger is from roots of trees; if one of these find its way to a joint or opening, it will grow rapidly, and often displace or clog the tiles. No deep rooted trees should be over or near tiles. Faults, or choking of tiles, can generally be discovered by the wetness of the soil at the defective points.

Wood Drains.—A Herkimer County Farmer alluding to our draining articles, says he uses wood and likes it. He lays 1 inch spruce or other board in the bottom, 1 to 2 inch scantling on the sides, and short slabs crosswise for cover. He uses a circular saw, to cut and joint them. They will answer well for a short time, but while about it, it is far better to make a permanent drain of tiles.

Siphon Draining.—H. A. Kelly, N. Y. Only metallic tubes absolutely air-tight, will answer for a siphon pipe, to carry water over an elevation. Any small portions of air entering, would gradually collect in the highest portion of the pipe, and in the end stop its action. So, also, an intermission in the flow would stop the action, and to start it again, it would be necessary to either apply suction to the lower end, or raise the water at the upper end as high as the highest point of the pipe.

Cleaning a Miller's Bolt.—C. C. Fuller, of Waldo Co., Me., asks how to clean off the fine particles of flour that have, by dampness, hardened upon the screen, and become sour. Since the reception of his query, we have asked several millers whom we have chanced to meet, but found no one who used anything but a brush. Perhaps a weak solution of alcohol and water, (weak whisky,) might answer, or for cloth bolts, we should suppose the careful use of water, and rapid drying would not injure the fabric. Some of the many practical millers among our readers may be able to give useful hints.

Strawberries on an Acre.—"Uninitiated" refers to Mr. Knox's statements in the July *Agriculturist*, page 211, and gives a calculation to the effect, that 300 bushels per acre would give only 1½ plants to the quart, if the plants are 30 by 15 inches apart, or 2½ plants to the quart if 30 by 10 inches apart; or for 500 bushels to the acre only 1-1-5 plants to the quart. This calculation should be by the *hill* or *stool* rather than by the *single plant* or stem. There may be more than one plant in a hill. A quart of Wilson's strawberries is not an incredible nor even a very large yield from a single *hill*, in rows 30 inches or 2½ feet apart. We have picked and measured 33 quarts from 60 hills 15 inches apart each way, besides what were eaten directly from the vines; and this from varieties much less prolific than the Wilson, and only the next year after planting. "Uninitiated" begs Mr. Knox to tell *how* he gets such crops.

Strawberries and Blackberries in Market Together.—On the 18th of July we had on exhibition at the *Agriculturist* Office, baskets of the Austria Strawberry, taken from a large lot sent to market at that date. At the same time considerable quantities of blackberries were also offered in this market. Hitherto there has been an interval of one or two weeks between these two fruits, to be filled with raspberries. By the improvements being made, we shall soon have an unbroken succession of small fruits from the departure of frost to its return. Residents of new countries need no longer wait for the slow growth of fruit trees; they can, at trifling expense, and in a brief period, obtain a full supply of luscious berries of various kinds.

Strawberries or Blackberries?—B. C. Whether Strawberries would yield the best return depends upon a variety of circumstances, as soil, climate, season, etc. Where a full crop of both could be sold, strawberries would probably give the most profit per acre. It is safer to cultivate several sorts of small fruits. If one fail, some other may do well; there is also the advantage of successive employment for hired help. On 10 acres of ground a good division might be, Strawberries 4 acres, blackberries 3, raspberries, 2, currants 1 acre.

Parsneps, Wild and Cultivated.—"J. H." Memphis, Mich. The seed of the cultivated parsnep will reproduce its kind, and you need not fear to use roots grown from such seed. The wild parsnep which has a sharp, bitter, poisonous root might, perhaps, by cultivating for many generations, be brought up to the standard of the garden sorts, but it would hardly pay to attempt it.

Horse Beans.—"J. H.", Memphis, Mich., writes that from his own experience and that of many others, with seed of the Horse Bean brought from England, he believes it will not grow successfully in this country.

Blanching Celery with Sawdust.—T. L. F., Carbon Co., Pa., writes: "Mr. Isaac Ripple, of Luzerne Co., Pa., tried an experiment last year in blanching celery, with a result which far exceeded his expectations, and I take the liberty of communicating his plan for the benefit of the readers of the *American Agriculturist*. He prepared his trench and set the plants in the usual way (but he thinks he would have succeeded quite as well without the trench). After the plants were fairly established, he enclosed them with a board box, which he filled, as the plants grew, with sawdust, instead of earth. The celery appeared to grow better than when banked with earth, and when brought to the table, the stalks were white, crisp, and tender from bottom to top. There was neither rot nor rust, and when wanted for use, by removing one side of the box the sawdust fell away from the plants, leaving them almost sufficiently clean for the table. He had also single plants set here and there wherever he had vacant space in his garden, which he covered with boxes and headless barrels, and blanched with sawdust in the same way, many of which grew higher than their enclosure and were perfectly blanched as high as the sawdust extended. The sawdust was used just as it came from the mill, where White Pine and Hemlock were the principal kinds of lumber sawed. [We should have supposed the plants would be slightly flavored with the pine and hemlock sawdust.—ED.]

Muskmelons Cracking.—G. S. W., Monroe Co., N. Y., lost his melons by cracking, as alluded to by a previous correspondent, until he put small pieces of boards or shingles under them a little while before ripening.

The Hubbard Squash and Insects.—Geo. W. Powell, Hancock Co., Ill. We have found in our own experience, what you suggest as probable, that the striped bug and other insects have a special liking for this valuable squash. They can be preserved only by unremitting care, use of ashes, and hand picking.

Squash Vine Borer.—C. B. Shoemaker, Montgomery Co., Pa., sends specimens of Hubbard Squash vines, destroyed by a worm at the root, and asks for information. The injury is done by the *Ageria Cucurbitae*, or squash vine *Ageria*. The parent insect is about $\frac{3}{8}$ ths of an inch long, orange colored spotted with black, having its hind legs fringed with orange colored and black hairs. It deposits eggs on the vines close to the roots, from about the tenth of July to the middle of August. The larva when hatched, bores into the stem, works downward, and kills the vine. We know no certain remedy, but to protect the vines with millinet frames. The eggs might be detected and removed before hatching.

Strawberries—A Good Picking.—Carew Sanders, of St. Louis, Mo., tells us through the Valley Farmer, that at one picking he gathered five bushels of Wilson's Strawberries from 11 $\frac{1}{2}$ rods of ground, or at the rate of 70 bushels per acre. This was without any extra culture. The bed was in its third season of bearing; was planted in rows four feet apart, the plants all taken out from between the rows each year, leaving plants 12 to 18 inches.

Morel.—F. W. Purdy, Bourbon Co., Ky. This plant resembles the mushroom, and is used similarly, especially for gravies. It has not a smooth surface like the mushroom, but is irregular, and has a deeper hollow on the under side. It grows wild in moist places, in some parts of the country. We are not aware that it has been cultivated.

Large Potatoes.—T. P. Dunham, Kalamazoo Co., Mich., puts Mr. White's large potato quite in the shade—(see page 69, March *Agriculturist*.) He writes that he raised 10 bushels as fine blue mercur potatoes as he ever saw, from 12 potatoes! He cut them, planted 3 eyes in a hill, on land previously occupied by a rail fence, never tilled before. They grew very large, the heaviest weighing 5 $\frac{1}{2}$ lbs!! while others weighed 4 $\frac{1}{2}$ lbs., 4 lbs., 3 $\frac{1}{2}$ lbs.

Barren Beans.—Joel Y. Schelly, Berks Co., Pa. Broad Windsor and Scarlet Runner Beans seldom set pods from blooms which open in the heat of Summer. Our climate is too hot for them. Upon the approach of cool weather the flowers will frequently remain longer and set pods. It is better to plant late, say the middle of June—or raise in frames, and plant out very early. They stand a little frost.

Dwarf Broom Corn in Ohio.—G. L. Howard, Lorain Co., O., planted some of this seed obtained from the *Agriculturist* office a year ago. It grew 4 feet high, with straight solid brush, from 16 to 22 inches long, and made excellent brooms. Most of the seed ripened.

Monster Arum.—Mr. S. H. Haviland, Kings Co., L. I., has placed on our table a very large flower of the Arum *Dracunculus*, 15 inches long, and 7 inches wide, with a spathe 12 inches in length. The flower is of bright velvet, or reddish purple, and the largest of this species we have ever seen.

The Escholtzia Perennial.—C. W. Servoss, Atchison Co., Kansas, writes that seed of the above received from the *Agriculturist* Office, came up well, and flourished through all the "terrible drouth and burning siroccos" of last season. They showed a fine bloom, and, although an annual, Mr. S. covered his plants lightly with litter, and by the middle of last May they began to bloom again, and are now, (June 3,) "a mass of flowers."

Maurandia Barclayana.—This plant is described by Breck as an elegant green-house climbing perennial, which may be raised from seed, and brought forward in a frame, or small pots in a hot bed, so as to flower profusely from August to October, or until killed by frost. Plants are also to be had at most green-houses at small expense, say 25 to 50 cents each, which, transplanted to the open border the first of June, will flower profusely during the season. They should be provided with a wire frame, or strings, for the tendrils to attach themselves. Flowers purple, bell-shaped, and graceful, in fine contrast to the deep green foliage. The plant extends from six to twelve feet.

Dicentra Cucullaria, or *Dutchman's Breeches*, is the name of the flower sent by H. A. L., Worcester Co., Mass. It is a native, resembling, but not equal to, the Chinese *Dicentra Spectabilis*.

Lady Gardeners.—E. Y. Teas of Richmond, Ind., writes to the Ohio Cultivator, that his gardener has gone to the war, and that he has "engaged a young lady to take charge of the green-house." That's all right, and just what the *Agriculturist* has long encouraged. There is no reason why ladies may not excel in a garden, and especially where so much skill and taste are requisite as in a green-house. We once heard a gardener compliment a lady who was remarkably skillful in striking cuttings, that "whatever she put in, knew it had to grow."

Flower Books.—E. O., Nashville, Tenn. Breck's Book of Flowers is the work you want. It is descriptive, and gives many practical directions. Sent post-paid for \$1.

Cobaea Scandens.—J. M. M., Huntingdon Co., Pa., alluding to the statement that this plant will not bloom in pots, says that his plants flowered freely last February, in an 8-inch pot. Its growth from October, when it was put in the Conservatory, until it flowered in February, was 25 to 30 feet.

Pot Roses and Acacias in Borders.—J. M. M. It is better to turn these plants into the open border in Spring, and replot them in the Fall.

Tea Roses not Hardy.—L. T. Wheeler, Kosciusko Co., Ind. The tea roses will bear some freezing, when protected, and in your latitude would probably live in the open ground, if covered with earth during Winter. We protect ours in that manner. It is better to pot and set them in a green-house, in the Fall.

Rose of Jericho.—(*Anastatica hierochuntina*.)—This is not a real rose, but an annual herbaceous plant, which grows in the sandy deserts of Syria and Egypt. When mature, it rolls itself up, and the winds blow it over the arid plains. It opens again during the rainy season, and once more becomes a living plant.

Raising Plum and Cherry Trees.—German Subscriber, Elkhart, Ind. You can be certain of good varieties of fruit trees, only by grafting or budding with desirable sorts. Seedlings are seldom true to their kind.

Hop Tree. *Ptelea trifoliata*.—L. H. Hammond, Franklin Co., O.—This is a small tree, or more properly a shrub, rather ornamental, but of little value as a substitute for the quick growing and easily raised hop vine.

Leather Scraps for Fruit Trees.—C. Garrison, Atlantic Co., N. J. These are good to spread around newly planted trees for a mulch, and in their slow decay they yield some nourishment.

Wild Grapes.—A subscriber wants to know the reason of their unfruitfulness when brought into gardens and cultivated. Most of them are poor bearers or barren in their native localities. As a rule they are not fit to eat when they do bear, and so long as good grapes can be had, it seems a waste of time and soil to transplant them.

Market for Grapes.—There is no danger of overstocking the market in the present generation. Dr. Underhill's Isabellas and Catawbas are sold every year, at thirteen cents a pound and upward, this being the lowest price we have ever known them to bring. We want grapes so cheap and plenty that the poor can have them upon the table every day during the grape season. They are now an expensive luxury. The sale of fruit will pay much better than wine making in any of the older States.

Vermont Farmers.—T. L. Tucker, West New

berry, Vt., after planting his corn, went to the war as a drummer. Twenty seven of his neighbors turned out and hoed his corn. When he hears of this he will doubtless put in "double licks" with his drum sticks, and be less likely to "tucker out." There will doubtless be an old fashioned "husking bee" next Fall not a thousand miles from West Newberry.

Those Neglected Tools.—A subscriber in Bureau Co., Ill., writes to the *American Agriculturist*, "I have no doubt you would feel terribly vexed, as I did, to see reapers and mowers left in the road, or in the field where they were last used, to stay there until wanted next year." Yes, it always vexes a man of common sense to see thriftlessness. No wonder "it's too hard times to take a paper" with such people. It is gratifying to know, however, that there is much improvement generally in the care of implements. Most cultivators in the Eastern section of the Union keep tools properly sheltered.

That Mammoth Horse.—Wm. McCracken, Morgan Co., Ind., writes that he raised the large horse mentioned in the June *Agriculturist*, page 166. The horse was sold by him to Richard Johnson, of Morgan County, who exhibited him at various places, traveling as far South as New Orleans. The horse died shortly after this at St. Louis, Mo.

Gapes in Chickens.—A subscriber recommends asafetida for this disease. He puts a piece of the size of a hickory nut in a pint bottle of water, shakes it up, and mixes the water with meal. The bottle is then filled again with water, for the next dish. He gives this mixture to the fowls every day, until the danger of gapes is past. One ounce of the asafetida lasts through the season, and he raises as many early chickens as he desires.

"Absconding Bees."—M. Quinby, Montgomery Co., N. Y., writes: The paragraph from the "Bee Journal," on page 197 of the *American Agriculturist*, concerning the only reliable means of preventing the absconding of a swarm, is not to be depended on in all cases. I have found exceptions with both natural and artificial swarms, when managed precisely as there directed. The proportion swarming out after being hived, is as great as with regular swarms. I object to rules being given as *infallible*, because they have succeeded in a limited number of cases. I have had hundreds of swarms, and not one left for the woods without first clustering. Would it be very inconsistent to say *they never did*? Yet I am satisfied that they will do so occasionally. It may be a good way to put a refractory swarm in the cellar for a time, but it can not be depended on. Treatment of "twenty-four hours" duration will not always have the desired effect. I have found it necessary to confine them three days before they would remain contented.

Rat Remedy.—We have never found any remedy, but to make the building rat proof—either by putting it on posts capped with tin or stone, or by making the cellar tight by cementing the bottom and sides. This is effectual, and if the doors are kept shut, such a building is inaccessible to rats. The poisons are only a temporary remedy, and cats, ferrets, and terriers only half do the work.

To kill Rats, Mice, Squirrels, Gophers, etc.—L. M. Evans, in the Oregon Farmer, says: mix one quart corn meal with milk until it is in the proper state to bake: add $\frac{1}{2}$ teacupful fine pounded glass, mixing thoroughly. Place the mixture in barns, near holes and other infested places, and bid farewell to the vermin. Mr. E. says the recipe is worth \$20 to every farmer.

Kidney Worms in Hogs.—This, and most other diseases in hogs, are the result generally of want of care and cleanliness, or arise from injudicious and irregular feeding; from their being kept in foul and wet places, with no clean dry place for sleeping. The remedying of these evils is better than medicine, and without attention to these things, medical treatment is without avail. For slight ailments charcoal and cinders are excellent. For disease of the kidneys diuretics are indicated, especially fruits and vegetables.

Wire Worms.—A subscriber kills them by Fall plowing. This is a cheap remedy, and good for the land.

Starlings or Parrots are now kept at some of the Railroad Stations in Scotland, and taught to call the name of the stations loudly and repeatedly, whenever a train arrives. The passengers are thus notified of their whereabouts. Perhaps the plan may be generally adopted—if the birds can be made to talk only when needed—there is certainly "confusion of tongues" enough already at a Railroad depot without the addition of babbling, garrulous parrots.

Cheap Paint.—G. S. W., Rochester, N. Y., has tried and likes the cement paint described on page 136, May *Agriculturist*. He used no coloring material, preferring the tint given by the water lime.

Draining—Can be done in any land where there is a fall of one foot in a hundred. More is desirable, but this will answer if you have a good outlet.

Salt on Wheat—Is recommended by a Wisconsin subscriber. He says two bushels to the acre increases the yield twenty per cent. Doubtless, on many soils.

Separating Chaff from Wheat.—C. D. Bel-lows, Vermillion Co., Ill. Much of the chaff seed can be separated by a good fanning mill. A very effectual way to get rid of this and other foul seeds, is, to cover the grain just before sowing, with strong brine, which will float the weed seeds, while the wheat sinks. The worthless stuff can then be skimmed off and burned.

Alsike or Swedish Clover has been raised as a farm crop by Mr. S. B. Parsons, in Queens Co., N. Y. He speaks highly of it; says it stood the Winter well, grows nearly as high as the common red, and produces abundance of pinkish white flowers, from which it is claimed bees can extract the honey. The *Incarnata* or French clover was entirely killed by the Winter.

Bee Poison in Buckwheat.—S. W. Jewell writes in the Ohio Farmer, that the medicinal principle upon which the irritating properties of buckwheat depend, is the *Apis venenum* or bee poison, and is one of the sources from which the bee obtains its supply. He says the irritable habits of the honey bee during the flowering of buckwheat corroborates the above statement. He prescribes carbonate of soda to be used in raising the batter for "flap-jacks," as a preventive of the eruption sometimes caused by using buckwheat cakes freely.

First Milk Poisonous.—The Maine Farmer says a gentleman lost a fine sow in consequence of giving her the first milk of a cow after calving. The editor experimented twice, by feeding it to pregnant sows, and each time the mother cast her pigs dead. A neighbor nearly lost a sow from the same cause. Of course, the first milk is not injurious to the young animal for which it was intended—on the contrary it is just what is needed.

Milking Machines Injurious.—So says the Dairy Farmer, and so says the *American Agriculturist*. Everything in the process should be soothing and gentle, instead of the harsh jerking motion of a "milk pump." We have seen a good many milking machines—perhaps not all that have been proposed—and we have yet to find one we should be willing to have used.

Tulips from Seed.—"Subscriber," Jerseyville, Ill. It is a slow, troublesome process to obtain tulips from seed, and even then they may be poor sorts. If disposed to try the experiment, the seed should be sown in August, in boxes of earth, and put in a frame or otherwise protected during Winter. It is usually better to purchase the bulbs, or roots which are readily obtained from a seedsman or professional cultivator.

Wild Flowers from California.—From No. 8 of a lot of wild flower seeds received from J. Child, of California, we obtained some pretty flowers, resembling *Cuphea viscosissima*, or sticky *Cuphea*. Sown May 1st, and flowered last of June. Flowers, bell-shaped, purple and yellow; plant 6 inches high. Mr. Child writes that it grows wild, 3 inches high, and likes a rich and shady location. We can find no botanical description of it. It is worthy of introduction into the flower garden, and we shall be obliged to Mr. Child if he will secure us a larger parcel of seed, for cultivation and trial next year.

Acroclinium Roseum, or New Rose-colored Everlasting Flower.—We have in bloom plants from seed presented to us by B. K. Bliss, the well known florist of Springfield, Mass., and are highly pleased with them. Mr. B. thus describes them: Nat. Ord. Compositæ. Native of Australia; half hardy annual; one foot high; flower bright rose, from July to September. A very fine plant for the border, producing many stems from the same root, each terminated by an everlasting like flower of a bright rose color, resembling that of the *Rhodanthe Manglesii*, but much larger; of easy cultivation in any friable garden soil. If the flowers are removed when they begin to fade, the plant will continue blooming until October. Sow for early blooming, in gentle heat in March, nurse in pots, and plant out in May. Sow in open ground in May, in a rich garden soil.

Collinsia Bi-color.—Mrs. C. Myers, Chenango Co., N. Y., sent us a few unnamed seeds, received from Germany last year. We planted them May 1st, and on blooming July 2d, they proved to be the *Collinsia bi-color*, which was, we think, originally from California. It is a very pretty annual, grows 12 to 18 inches high, of compact habit, and bears beautiful flowers, somewhat resembling the snap-dragon in form, and about half its size. The petals are white and reddish violet, different shades. It is worthy of general introduction.

Convolvulus Tri-color.—(*Dwarf Morning Glory*).—Seeds received from Geo. Fechtig, Washington Co., Md., last Spring, we sowed May 1st, and obtained beautiful flowers the last of June, the petals having blue corolla, yellow calyx, and white center. There is a variety entirely white. This is one of the finest annuals, furnishing a large amount of blossoms in succession. Its dwarf habit (15 to 18 inches), adapts it well for a bed plant, as it requires no trellis to run upon. The blue color is very showy. Seeds can be had at most seed stores.

Tufted Vetch, or Tare.—(*Vicia cracca*).—This is the name of a plant we have raised from seed received from Mrs. Beckley, of Madison, O. She calls it "cassia vine." Sown middle of April, flowered June 20. Grows 2 to 3 feet high, and branching, requiring low trellis or other support; 12 to 24 leaflets on long stems, with two to five tendrils at the end. The flower stems, 3 to 4 inches long, bear 20 to 30 flowers on each, on one side, beautiful blue and purple. This is a fine flowering annual, easily grown. Used as a low screen, this plant, with its profusion of blue flowers, makes a pretty show. Several varieties of the vetch, (especially the *sativa*), are extensively grown in Europe for fodder, and used similarly to clover. A few varieties are found wild in this country.

To Grow Large Fruit.—A French Amateur says: "If you want to have big pears or other fruit, just work (graft) on them the point of an adjoining shoot. If you want big gourds, bore a little gimblet hole in their rind when a few weeks old, and push in a long piece of cotton wick with the loose end in a pan of water. The cotton will suck up the water, the gourd will suck the cotton, and by the time the fruit is ripe, you will have the hugest specimen that ever was seen. [If it grows.—Ed.]

Low Branching Trees for Prairies.—J. T. Moxley, Sheboygan Co., Wis. No doubt your success with apples was mainly owing to your having the trees branch low. They may be raised in this way, in nursery rows 5 feet apart and 1½ feet distant in the row, or even closer if desirable, transplanting to the orchard two years from the bud.

Hornets and Wasps Serviceable.—David E. Cox, Lincoln Co., N. C., writes that hornets and wasps are very serviceable in destroying insects which injure vegetation, and that they should therefore not be molested, but encouraged. He says that they rapidly cleared a pear tree on his premises of the aphides which infested it; also that a neighbor of his had a crop of tobacco saved from worms, which were destroyed by hornets. It is true that hornets and wasps prey upon insects, for the sake of the vegetable juices they contain, but they are also sometimes troublesome by attacking fruits, and their venomous stings make them unpleasant neighbors. Perhaps, however, they are more beneficial than injurious; if so, let them be preserved. Here is an interesting question for the investigation of young entomologists.

Toads Eating Bees.—Mr. J. Wakeman tells the Editor of the Rural New-Yorker that toads do eat bees, and is willing to take oath that he opened a toad destroying bees about his hives, and found 52 whole bees in his stomach! None of these rascals are to stay about his hives. Mr. Quincy at one time informed us that toads would eat bees, but he believed they took only the drones.

To Destroy "Manroot."—(*Convolvulus Panduratus*).—Peter Hillebaum, Drake Co., O. Dig them up, or plow them under, and cultivate the ground thoroughly with corn, or potatoes, or some other root crop. This treatment continued long enough, will eradicate any weed. Of course heavy manuring will be needed where several successive hoed crops are taken from a field.

Origin of Morgan Horses.—R. A. Gray, Jackson Co., Oregon. The breed of Morgan horses descended from a horse called the Justin Morgan, named from his owner, who lived in Randolph, Vt. The pedigree of this horse is not known. It is supposed, however, by good judges, that he came from a cross of the Arabian, or thorough-bred, with the common stock.

Weather Proof Nails.—A writer in the "Field Notes" recommends nails prepared in the following manner, for fastening roof boards, weather boards, and other places where it is difficult to make a nail hold: Take ten-penny malleable nails, and place the head in a vise; with a pair of pincers seize the nail near the point, twist it half way round, making the twist somewhat elongated. In driving, the nail becomes a screw, and neither sun nor hammer can draw it. Common cold cut nails can be made malleable by heating them to redness and cooling off slowly.

Cement Pipe Chimneys.—Passing a cement tile manufactory the other day, we observed they used the hollow pipes, set one upon the other, for a chimney. This is suggestive at least. Perhaps we may yet have chim-

neys ready made in sections for setting up, as an article of merchandise; and possibly cement pipes may take the place of iron stove-pipes in those parts of a house where it is desired to retain the heat, rather than to have it given out into a room.

Maple Sugar.—Very fine white sample received from W. H. Platt, Somerset Co., Pa.—We shall be pleased to learn the process of making such an article.

Hair as a Fertilizer.—James Wrigley, Worcester Co., Mass. Hair, from its composition, must be a good manure, as it contains much nitrogen. We do not know what is the best solvent. Mixed with lime, and subjected to the heat of a compost heap it will be decomposed. We have known it applied directly to the soil where it produced good results; it gradually decays by the combined influence of air, warmth and moisture.

Immense Receipts of Grain at Chicago.—The receipts of the various kinds of grain at Chicago, during the first six months of this year, amounted to nearly nineteen million bushels! or accurately 18,777,471 bushels. These figures are obtained by reducing the flour to its equivalent of wheat; and including corn, oats, barley, and rye. The receipts of wheat alone, including the flour, amounted to over 8,000,000 bushels; corn, 9,433,364. The total receipts in 1860, for the same period, were 13,091,437 bushels; and in 1859 only 5,629,793 bushels.

The New Tax on Tea.—There is at the time of this writing not a little alarm on the part of some people, because Congress is discussing the propriety of laying a duty of 15 cents per pound on tea. The majority of families do not consume over 10 lbs. of tea a year, on which this extra charge of 15 cents per lb. amounts to one dollar and a half—not a large contribution for the defence of a government that secures us all we have.

The Children Should Sing.—No accomplishment gives more real pleasure in the household than singing. It is a solace in trouble, a delight in leisure, and a powerful stimulant of the better nature. Every publication that furnishes good music, is a benefaction to the country and deserves appreciation and support. The latest musical work for children, is the "Golden Chain," by Wm. B. Bradbury, with whose music the readers of the *Agriculturist* are already somewhat acquainted. Most of the pieces are new, and many of them very choice. Price, 15c., or \$12 per hundred.

A Neat Book Mark is manufactured by Wallace & Sons. It is a strap of brass two inches long, with a hand on one end and a foot on the other. The ends are bent together so as to be slipped on to a leaf in a book. We are indebted to Jno. Mix of Hew Haven Co. Ct. for a card of them, which we are turning to practical use.

The Prospects for Farmers.

While most departments of business are greatly depressed by the disturbances of the country, farmers have little to fear. Several causes have conspired to keep the prices of agricultural products at a low figure thus far, notwithstanding the large demand upon us from abroad for breadstuffs. The chief cause, however, has been the lack of a suitable currency. The depreciation of the Stocks of the revolted States has nearly destroyed the value of the bank bills of some of the Western States, and gold and silver, or specie paying bills, are just beginning to be diffused. The new Treasury Notes about being issued by the General Government, will add largely to our circulating currency—in other words, "money will soon be plentiful," and prices must necessarily go up.

The unexpected good weather in England and on the Continent, during June, led to a temporary less demand for wheat and corn, and our market fell off for a time; but from all accounts—even those most recently received—there must still be a large deficiency, and the demand upon this country will be continued. The market is even now rapidly recovering from the recent decline. Our own harvests are progressing favorably, and though the yield is fair, there is not likely to be a large surplus to keep prices at a very low figure. The course of the New-York markets, for a month past, will be given in our Market Review, at the close of the paper.

“Information Wanted” from Practical Men—\$240 offered in Cash Prizes.

Winter Wheat—Rye—Fattening Hogs, etc.—Winter feeding of Stock—Spring Wheat—Oats—Corn—Apples—Peaches—Blackberries and Raspberries—Family Vegetable Garden—Flower Garden.

There is a large amount of information among practical cultivators, that would be of great utility to the country generally, could it be drawn out and put in tangible form. We are aiming to do what we can in the good work, and the main question is, how can it be best accomplished. Two years since we offered a prize for the best article on Onion Culture, to be written by an experienced man, in a plain style, etc. The result was, a large number of excellent articles came to hand. They were carefully examined by a committee of competent practical men, and the prize awarded—the best article being published in the *Agriculturist*. Seventeen of the essays were afterwards published in book or pamphlet form, producing a little work which stands unrivaled as a source of plain, practical, condensed, but complete information. Nowhere else can such a variety of good information on the subject be found in so small a space. The plan worked so well, and was of so much value to the country, that we propose to extend it to other topics. We therefore now offer prizes on twelve different topics, and if the plan continues to work well, as it doubtless will, we shall hereafter make other similar offers for other topics. Those competing for these prizes, will do better to write wholly from their own experience and general observation, than to attempt to make up a complete treatise by copying from, or garbling books. The main point aimed at in this enterprise, is to collect the experience of a considerable number of practical observing men, and it is hoped that such men will write, for the general good, even if without expectation of gaining the prize. The prizes, which will be cheerfully and promptly paid in cash, are designed both as a stimulus, and to call direct attention to the subject. Here are the specifications. The time for preparing the first three is short, but we want the information this season.

REMARKS APPLICABLE TO ALL THE ESSAYS.

- Each article must be written by a person having had full practical experience, (the amount of experience to be stated,) and be of the length, and furnished at the time specified below for each. Only one side of the paper to be written upon.
- The shorter the essays the better, if plainly expressed and embracing all needed items. Those in our work on “Onion Culture” are fair models.
- The articles must all be written so as to be understood by the inexperienced. The best rule will be for each writer to give his directions just as if instructing a person who had not the slightest knowledge or experience on the topic.
- The articles should be written in a large plain hand, so as to be easily and rapidly read. The language should be that of familiar talk; the grammatical style or expression is not of so much importance as the amount of information clearly expressed in few words. The style can be corrected by our editors, when an article is to be printed.
- The prize in each class will be paid to the order of the person to whom it shall be awarded by a competent committee, after they have had time to examine all the manuscripts submitted.
- The prize article in each case will be published in the *American Agriculturist*, as we have space, with due credit to the writer.
- All the manuscripts submitted, will belong to and be the property of the Publisher of the *Agriculturist*, who will retain the right to publish any por-

tion of them in book or pamphlet form, when desirable. (At least three copies of any book or pamphlet published will be sent post-paid to each writer of any article therein published.)

8. If it should chance that only two or three articles, and these of but little value, are offered for any one of the subjects named below, the publisher will claim the right to withhold both the publication and the prize.

9. Each article to be accompanied with a sealed envelope containing the full name and address of the writer, the whole enclosed in a parcel marked on the outside “for Prize No. I, II, or III,” etc., according to the numbers below, and sent to *Publisher of American Agriculturist*.

Specifications.

I. Winter Wheat.—Article not to contain over 20 foolscap pages—to embrace all items from selection of seed and the best varieties, to the marketing of the grain, including preparation of ground, time and mode of sowing, after treatment, insects, harvesting, threshing, etc. To be delivered on or before Sept. 1st, 1861. Prize \$25.

II. Rye—Winter and Spring, embracing same items as for Winter Wheat. Not to exceed 15 foolscap pages. To be delivered on or before Sept. 1st, 1861. Prize \$15.

III. Rearing and Fattening Hogs.—Not to exceed 15 foolscap pages. To include selections of breeds; best age for fattening; feeding; preparation of food, and time and manner of feeding, killing, salting, marketing, etc. To be delivered on or before Sept. 1st, 1861. Prize \$15.

IV. Winter Feeding and Care of Stock.—Not to exceed 20 foolscap pages. To embrace items of care and feeding of the various farm Animals, from Horses to Poultry. The more full the hints, the better. To be delivered on or before October 1st, 1861. Prize \$20.

V. Spring Wheat.—Not to exceed 15 foolscap pages. To embrace precisely the same items, (varieties, etc.) as for Winter Wheat (No. I). To be delivered on or before Nov. 25, 1861. Prize \$20.

VI. Oats.—Not to exceed 10 foolscap pages. To contain various items, from selection of seed and varieties, preparation of ground, best soils, time of sowing, and after treatment, through to marketing. To be delivered on or before Dec. 2, 1861. Prize \$15.

VII. Indian Corn.—Not to exceed 20 foolscap pages. To contain the various items, preparation of ground and seed, time and mode of culture, enemies, gathering, storing, and marketing. To be delivered on or before Dec. 2nd, 1861. Prize \$25.

VIII. Apples.—Not to exceed 20 pages foolscap. To embrace various items, best varieties of sweet and sour, Summer, Fall, and Winter; preparation of soil, time and mode of planting, treatment of trees, insect enemies, gathering and marketing fruit, etc. To be delivered on or before Dec. 2nd, 1861. Prize \$20.

IX. Peaches.—Not to exceed 12 pages foolscap. To embrace varieties, planting, treatment of trees and fruit, diseases, marketing, etc. To be delivered on or before Dec. 2nd, 1861. Prize \$15.

X. Blackberries and Raspberries.—Not to exceed 15 pages foolscap for the two. To include different varieties, value, soil, preparation, propagating, planting, after treatment, picking, marketing, drying, wine-making, etc. To be delivered on or before Dec. 2d, 1861. Prize \$20.

XI. Family Vegetable Garden.—Not to exceed 25 foolscap pages. To embrace directions for soil and location; one list of standard products; a second list of desirable products, and a third embracing rarer plants or those required for a complete garden, with notes on new sorts; time and mode of raising, with brief directions—in short just such directions as an experienced cultivator could give to a green city neighbor who had settled near him, and came daily for all kinds of information. To be delivered by Dec. 2d, 1861. Prize \$25.

XII. Flower Garden.—Not to exceed 20 foolscap pages. To contain similar items as for Family Vegetable Garden—adapted to the wants of a “new

hand,” or a family just commencing to raise flowers and wishing to get up either a small or a complete collection for private grounds. To be delivered on or before Dec. 2nd, 1861. Prize \$25.

Population of the United States in 1860.

The following statistics, which have been compiled for the *American Agriculturist* from the Census Report of 1860, and that of 1850, will be found useful for reference. The figures are below the truth, for the reason that the Census Marshals, as a class, were appointed from political favorites—and generally from the least efficient of the party hangers on, whose “claims” for services had been hitherto ignored. It is not to be expected, therefore, that there was anything like a full gathering of the number of persons, or of the actual amount of different productions. It is probable that the actual population was nearly thirty-five millions last year, and over that now. But since the previous census was similarly taken, the figures showing the *ratio of increase* are nearly correct:

EIGHTH CENSUS—1860.				
Free States.	Whites.	Free Colored.	Total.	Tot. in 1850.
California.....	376,200	3,816	380,016	92,597
Connecticut.....	451,609	8,542	460,151	370,792
Illinois.....	1,704,684	7,069	1,711,753	851,470
Indiana.....	1,340,072	10,869	1,350,941	988,416
Iowa.....	673,925	1,023	674,948	192,214
Kansas.....	106,487	623	107,110
Maine.....	627,081	1,195	628,276	583,169
Massachusetts.....	1,221,611	9,454	1,231,065	994,514
Michigan.....	742,289	6,823	749,112	397,654
Minnesota.....	161,793	229	162,022	6,077
N. Hampshire.....	325,622	450	326,072	317,976
New-Jersey.....	647,084	24,947	672,031	489,555
New-York.....	3,839,544	47,998	3,887,542	3,097,394
Ohio.....	2,303,374	36,225	2,339,599	1,980,329
Oregon.....	52,343	121	52,464	13,294
Pennsylvania.....	2,649,997	56,373	2,906,370	2,311,786
Rhode Island.....	170,703	3,918	174,621	147,545
Vermont.....	314,534	582	315,116	314,120
Wisconsin.....	774,392	1,481	775,873	305,391
Total.....	18,683,344	221,738	18,905,082	13,454,293

Union				
EIGHTH CENSUS—1860.				
Slave States.	Whites.	Free Colored.	Slaves.	Total.
Delaware....	90,697	19,723	1,798	112,218
Kentucky....	920,077	10,146	225,490	1,155,713
Maryland....	516,128	83,718	87,188	687,034
Missouri....	1,064,369	2,983	114,965	1,182,317
Territories...	208,233	299	63	208,143
Dist. Columbia	60,788	11,107	3,181	75,076
Total.....	2,860,292	127,976	432,685	3,420,951

Seceding States.				
Whites. Free Colored. Slaves.				
EIGHTH CENSUS—1860.				
Alabama.....	526,534	2,630	435,132	964,296
Arkansas.....	324,186	137	111,104	435,427
Florida.....	77,778	908	61,753	140,439
Georgia.....	591,638	3,459	402,232	1,057,329
Louisiana.....	357,642	18,638	333,010	709,290
Mississippi.....	353,969	731	436,696	791,396
North Carolina	631,489	30,097	331,081	992,667
South Carolina	291,623	9,648	402,541	703,812
Tennessee.....	826,628	7,235	275,784	1,109,847
Texas.....	421,411	339	180,682	602,432
Virginia.....	1,047,613	57,579	490,887	1,596,079
Total.....	5,450,711	131,401	3,520,902	9,103,014

SUMMARY.			
White Population.			
	1860.	1850.	
In Free States.....	18,683,344	13,258,031	
In Union Slave States and Terr.	2,860,292	1,953,371	
In Seceding States.....	5,450,711	4,341,948	

Free Colored.			
	1860.	1850.	
In Free States.....	221,738	196,269	
In Union Slave States and Terr.	127,976	115,484	
In Seceding States.....	131,401	122,702	

Slaves.			
	1860.	1850.	
In Union Slave States and Terr.	432,685	394,771	
In Seceding States.....	3,520,902	2,809,303	

Total in all States and Territories.			
	1860.	1850.	
Whites.....	26,994,347	19,553,350	
Free Colored.....	481,115	434,448	
Slaves.....	3,953,587	3,204,313	
Total Population.....	31,429,049	23,192,112	

Increase of whites in 10 years.....	7,452,781
Increase of free colored in 10 years.....	46,666
Increase of slaves in 10 years.....	751,274
Total increase of population.....	8,248,721

Percentage of Increase in ten years.			
	1860.	1850.	
Whites.....	38.06 per cent.		
Free Colored.....	10.74 per cent.		
Slaves.....	23.38 per cent.		
Total Increase.....	35.56 per cent.		

Taking the above figures as the basis, and allowing the same ratio of increase (35.56 p. cent.)

for the next ten years, the population of this country in 1870 will be 42,605,220; in 1880 57,755,634; in 1890, about 78,393,557; and in 1900 over 106,000,000. It is probable that as the country is filled up, emigration will decrease, and the ratio of increase be smaller; yet there is little doubt that those who live thirty-nine years, or until 1900, will witness a population in the present territory of the United States, of over One Hundred Millions!

Experiments with Manures on Corn.

Dissolved Bones—American Guano—Poudrette—Coarse Bone Dust—Muck saturated in the Barn yard Liquid—Yard Manure—Value of Manure Washings.

The relative value of the various fertilizers offered in the market, is a question of no little interest to those who can not manufacture in the barn-yard all the manure they need. The trial detailed below, may be taken as one of the many experiments required to settle the question for different soils. The land consists of between three and four acres; the first planting of May 18, with the Improved King Philip Corn, was on sod land broken up two weeks previously, and probably had never been manured. The second planting, of May 23d, was on a portion of the same field which has been in potatoes for two years past. To avoid as much as possible the differences arising from variation in soil, successive strips of three rows were taken for each fertilizer, the same kind coming in more than once. The ground was furrowed out with a small plow, the fertilizers scattered uniformly along the furrows, and the corn dropped upon them, in drills, and covered. We give the appearance of the corn from careful observations made July 12. The results when the corn is husked may vary from the present appearance. If so we will report, and the interested reader will please preserve this article, to save the necessity of our repeating the particulars.—We used a larger amount of the several fertilizers than is usually recommended, because we could not afford to lose the crop in hazardous experiments. We now wish the poorer portions were smaller, and that more of the field had been treated to yard manure; it would have been a good many dollars saved.

The dissolved bones is the article sold by Lester Brothers, as superphosphate of lime, and is really a superphosphate made simply by dissolving *unburned* bones in sulphuric acid. The term superphosphate is usually applied to a preparation of *burned* bones, which is a very different article, for we consider the organic matter burned out, as the really valuable portion of the material. It costs about \$3.50 per barrel.

The American Guano was forwarded to us by Mr. Sardy, and was, of course, as good an article of the kind as there is in market. Price about \$3.50 per bbl. The poudrette was purchased of the Lodi Company at \$1.50 per bbl. (the price in quantities of 7 barrels or more).

The Bone-dust was the fine crushed, but coarser than the bone-sawdust, which would have been far preferable, if it could have been obtained. It would average about the size of peas. Cost about \$2.50 per barrel.

The Muck used was dug out last Summer; carted in during February, and mixed with lime; and saturated with thin manure water in April, by pumping the liquid from the manure cellar, and sprinkling it over the heap by means of a hydropult, with long India rubber suction pipe attached.—It should be stated that the liquid used was not the usual strong drainage of a heap.

The barn cellar was about half full of horse and cow manure, litter and muck from the stalls, and the sink slops from the house. The breaking of an adjoining cistern filled up the cellar with water, and this water after soaking the manure for a few days, was pumped out upon the muck. It could hardly be called colored water, as at the bottom a pail was visible in it at the depth of seven inches. We state these particulars to indicate the value of even dilute rain washings from the manure heap, as shown on plot 13 below.

The yard manure was a compost of horse and cow manure, litter, muck, and cotton seed.

PLANTED MAY 18—APPEARANCE JULY 12.

Plot 1.—Superphosphate (unburned bones dissolved) applied at the rate of 6½ bbls. to acre. Corn 4½ feet high and vigorous.

Plot 2.—American Guano applied at the rate of 6½ bbls. to acre. Corn 3 feet high, moderately vigorous.

Plot 3.—Poudrette applied at the rate of 6½ bbls. to acre. Corn 3 feet high, not quite so vigorous as No. 2, but nearly so.

Plot 4.—Superphosphate, same quantity as No. 1, and similar results.

Plot 5.—Poudrette, 10½ bbls. to acre. Corn 3½ feet high, in fair vigor.

Plot 6.—American Guano 6½ bbls. to acre. Corn 3½ feet high, moderately vigorous.

Plot 7.—Coarse Bone-dust, 10 bbls. to acre. Corn 3 feet high, moderately vigorous.

Plot 8.—Poudrette, 10½ bbls. to acre. Corn 3½ feet high, looking well.

Plot 9.—Poudrette, 7 bbls. to acre. Corn 3½ feet high, moderately vigorous.

PLANTED MAY 23—APPEARANCE JULY 12.

Plot 10.—Poudrette, 8 bbls. to acre. Corn scarcely 3½ feet high, only in moderate vigor.

Plot 11.—Superphosphate, 4 bbls. to acre. Corn 4½ feet high, vigorous growth.

Plot 12.—American Guano, 4 bbls. to acre. Corn 3½ feet high, in fair vigor.

Plot 13.—Muck soaked in manure liquid; a medium shovelful to 3 feet of drill. Corn full 5½ feet high, and very vigorous!

Plot 14.—Stable compost, shovelful to 3 feet of drill. Corn 5 feet high, and nearly as vigorous as No. 13.

The results speak for themselves; the difference in the appearance of the successive plots can be seen fifty rods distant. But there is a drawback to these experiments. The fertilizers were put on by measure, and the cost of an equal *bulk* was very different for the several kinds. It was a serious mistake that an equal *cost* of each kind was not used on each equal plot; as we intended. Still, the experiments are instructive. Thus, comparing No. 1, No. 8, and No. 9, we find that there is a marked difference between No. 1 and No. 9, in favor of the dissolved bones; while in No. 8, the increase of the amount of poudrette increased the growth a little. In No. 2 and No. 3, nearly equal quantities of American Guano and Poudrette, produced about the same results, which is of course in favor of the cheaper article. In No. 7, the large application of coarse bone dust was of comparatively little utility—it was not fine enough to be immediately used by the roots.

In No. 10, No. 11, and No. 12, the result is in favor of the American Guano, as compared with the poudrette, but very decidedly in favor of the dissolved bones (superphosphate) as compared with both of the others. The costs of the fer-

tilizers on No. 11 and No. 12 was about the same; that of No. 10 a trifle less. No. 13, and No. 14 show the decided superiority of the stable manure; while No. 13 indicates the great value of liquid manure or manure washing. Here was applied simply muck saturated with weak washings, and yet the corn at this date (July 12) stands up to our eyes, so vigorous that we are thinning it out to give room for the stalks to grow, and looking down upon the comparatively weak growth of stalks furnished by the foreign fertilizers, and even crowing over its neighbor on the solid yard manure. If this plot could be seen by every farmer in the land, we think no more manure heaps would be left to leach away their precious life blood by rains, in the liquid streams flowing from so many barn yards.

Draining—Why—Where—How.

(Continued from pages 36, 70, 105, 137, 169, 201).

The drain tiles described in the last chapter, are all made of common brick clay and burned in kilns the same as bricks. When in the ground they are kept continually moist, and it is important that they be well burned, otherwise there would be danger of their crumbling in course of time. It is well known that hard burned brick laid in a damp wet soil, have remained sound thousands of years, and so drains of hard burned tiles will doubtless remain *permanently* effective, so far as decay is concerned. They may be clogged by deposits of soil, oxide of iron, carbonate of lime, or roots of plants.

Nearly a hundred different kinds of machines have already been contrived for the manufacture of tiles, in England, France, Germany, and in this country, and improvements are constantly being made to secure efficiency and cheapness. We have given engravings and descriptions of two of the most recent and complete of these machines. See Nov. 1859, (Vol. 18, page 325) and Feb. 1860 (Vol. 19, page 44). The two described, and a few others, grind the clay and make the tiles. Others are only adapted to forming the tiles after the clay is prepared as for manufacturing brick. To answer the queries of some, and gratify the curiosity of others, we will state that in all of the tile machines, or in nearly all of them, the clay after grinding is forced through apertures in a plate so that it comes out in a continuous tube or other form upon an endless apron, on which it is cut up into the desired lengths, then dried and burned like brick. Fig. 23 shows one of these plates which is placed upon the side of a box containing the prepared clay. It will be seen that an opening is made through the plate of the form of the exterior of the tiles: *h*, for horse-shoe

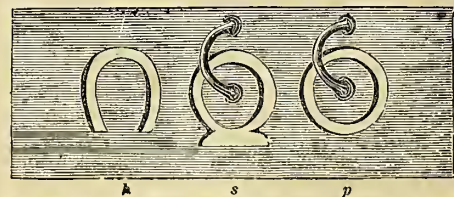


Fig. 23—INNER SIDE OF PLATE FOR SHAPING TILES.

tiles; *s*, for sole-tiles; and *p*, for round pipe-tiles. For the *inside* form a core is adjusted upon a support. The arm or support is so arranged that it does not prevent the clay from closing around it, and thus a perfect tube is formed. These plates are provided with from two to four openings, of any form and size desired. The box being filled with a quantity of

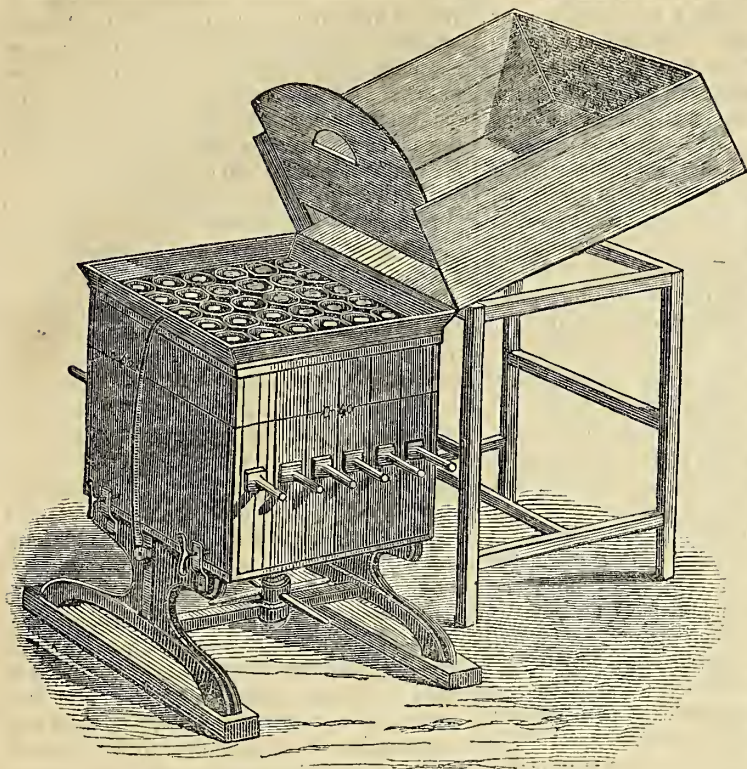


Fig. 24—APPARATUS FOR MAKING CEMENT TILES.

clay, the top is closed and a piston drawn in from the rear forces out two, three, or four continuous tiles. Perhaps one or more of these machines will be described at another time. (We would be glad to hear from any of our readers who have used, or seen used, what is called the "Buckeye Tile Machine," a very simple cheap affair, said to be effective.)

CEMENT DRAIN TILES.

There have been on exhibition at some of our fairs sundry drain tiles made of "hydraulic cement," but partly from the appearance of the specimens, and perhaps partly from the reticence of the exhibitors, we were not favorably impressed with them. We learn, however, that improvements have recently been made, and shall investigate further and report, if there appears to be anything valuable. In the meantime, we present herewith, an article translated for the *American Agriculturist* from the leading *Agricultural Journal of France*. The accompanying cuts we re-engage from that journal.

From the "*Journal d'Agriculture Pratique*," April 20, 1861."

"There is found in the department of l'Isere a cement of great hardness and consistence which is in great demand for buildings. The brothers Durand, of Grenoble, conceived the idea of using this cement for making drain tiles, and have arrived at satisfactory results. They have invented a machine with which the pipes can be molded very rapidly; it requires only a quarter of an hour by this process to obtain solid tiles, the durability of which is almost without limit. The complete apparatus of M. M. Durand, is represented by fig. 24, and in vertical section by fig. 25. It is simply a wooden box in which are placed moulds of a hexagonal form. This box can be taken to pieces. By simply loosening the screws shown in the figures 24 and 25; the whole side can be removed by the bowed handles represented in the engravings. The first row of moulds is thus exposed which can be taken off. We can then take off the successive rows of moulds by the handles shown on each one. The cores, which form the cavities

of the tubes, are each supported by a cast iron sockle or pedestal, which can be raised or lowered by means of a screw as shown underneath.

To operate the machine, the different series of moulds are placed in the box, the screws tightened on the sides—and the height of the bench regulated by the screw, so that the upper ends of the cores shall not be above the level of the moulds. In the upper compartment (shown turned back in fig. 24) is then placed equal parts of sand and cement previously mixed with a suitable quantity of water. It will take nearly five minutes for cement to begin to set. The

slide of the compartment is then raised up, and the contents flow into the moulds beneath and completely fill them. In ten minutes more the operation is finished. The apparatus as seen from above, presents the appearance of fig. 26, in which the tiles are represented by the shaded parts. The screws are now loosened and the series of moulds are successively removed, and each tile separately detached and slipped off from the core around which it is formed. The tiles are about 13 inches long. In fig. 27 is shown both the exterior and interior form.

The machine of M. M. Durand, despatches work rapidly but requires a cement which sets quickly, and consequently can not be made use of everywhere. It will be very useful in those

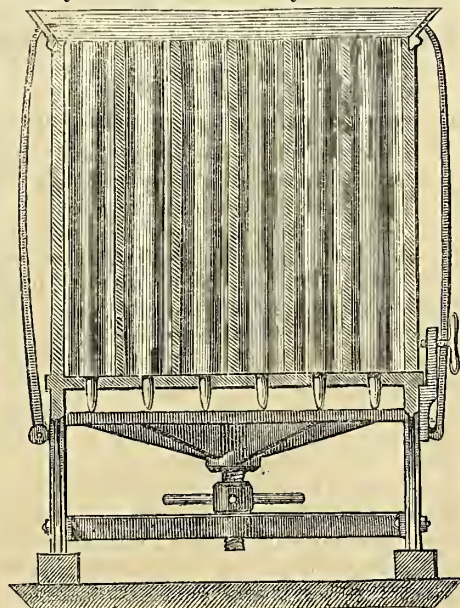


Fig. 25—VERTICAL SECTION OF THE APPARATUS.

countries where this material is of low price. A committee appointed by the agricultural society of Grenoble to examine the new drain-tiles, have reported favorably in regard to them. They consider drains from cement tiles far preferable to ordinary drains; these tiles are straighter and

more regular at the ends and by reason of their form are more easy to lay. They cost 30 francs (nearly \$6) per 1000 when laid, and 1000 tiles weigh 800 kilogrammes (about 1765 lbs., or 1½ lbs. each). The diameter of the tiles is not given.

The machine of M. M. Durand, has the patronage of M. Paganon, President of the agricultural Society of Grenoble, who has given an interesting notice of it in one of the late numbers of the '*Sud-Est*.' The machine could have been seen in operation at the "Concours General," of Paris, in 1860, where it was exhibited by the inventor.

A. DE CERIS."

REMARKS.—The above article gives us no particular description of the kind of cement used, further than that it sets quickly, or in 15 min-

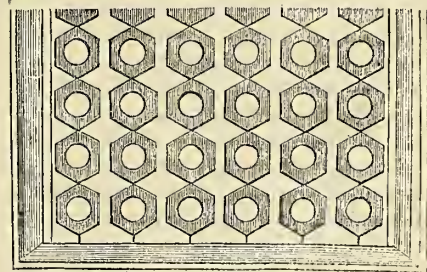


Fig. 26—END VIEW OF TILES IN THE FRAME.

utes from the mixing. Probably any of our good hydraulic cements would answer, since the difference between setting in 15, 20, or 45 minutes could be remedied by using two or three cheap machines instead of one. Any fair quality of cement which will harden under water, will answer for making tiles that will be permanent under ground. The question of cost is one we can not determine readily. As near as we can estimate, one barrel of hydraulic lime with a



Fig. 27—FORM OF A TILE.

little more than one barrel of sand, will make about 300 round tiles three inches outer diameter, the rim half an inch in thickness. The cost of the "Rosendale Cement" (or hydraulic lime) which is considered the best in this market, is \$1 25 per bbl.—probably less when taken in quantity. Call it \$1 20, and the cost of the 3½ barrels of hydraulic lime for 1000 tiles would be \$4 00. The sand, hauling, etc., may be put at \$1, making the cost of materials on the ground \$5 for 1000 tiles. Probably \$5 is a liberal allowance for the average cost of materials in most parts of the country.

The next question is, can or can not the tiles be made on the farm cheaper than to buy clay tiles at \$8 per 1000 at the yards, and transport them home. Smooth straight tiles are far preferable to burned clay tiles which are more or less crooked, though this is not so great an objection when collars are used. We confess to a hope that the cement tiles will yet prove to be profitable, especially in those places where hydraulic lime is accessible. Will not some of our ingenious readers experiment on the subject? With the accompanying engravings it will not be difficult to get up some cheap form of a machine to mold the cement tiles. We shall endeavor to try the experiment, if we can find time. If the machines come into market in France, we shall certainly import one, but in the meantime our Yankees can doubtless get up a better one.

The descriptions and the engravings are for hexagonal tiles. If made with collars, as recommended last month, the round form will be just as good, and require less materials.

Muck! Muck!! Muck!!!

In every pestilential swamp, in every hollow of forest ground, in sunken spots of the open fields, and beside many a highway, lies a *deposit* upon which the cultivator may draw "at sight" for capital to improve his grounds. Consider a few easily understood and undisputed facts, and then decide whether too much stress is laid upon the word *muck*, so often repeated in these columns. First, look at the fertility of what are called virgin soils—grounds where the forest, or the prairie sod had been undisturbed for ages, until the advancing settlers felled the trees or broke up the sods, and reduced them to tillage. Such fields should scarcely be called *virgin*, for they had brought forth and nourished hundreds of generations of trees and shrubs and grasses. These, in their decay, deposited upon the soil all they had drawn from it, and more; the wood and the leaves, were almost wholly made up of elements taken from the air in the form of gases, either directly through the leaves, or dissolved in water and absorbed by the roots. So each falling tree and each withering spire of grass enriched the soil. When wheat or corn took the place of the forest and the prairie grass, it found sustenance that had been laid up in store during centuries, and the cultivator reasonably expected thirty bushels of wheat and fifty or more bushels of corn from each acre, if the season were at all favorable. Besides the nutriment afforded by the decaying vegetable matter left in the ground, its presence materially benefited the mechanical texture of the soil, rendering it light, friable, porous, and warm, giving the prime conditions for luxuriant growth of all plants. Years of cropping have worked a great change on such soils. Repeated plowing exposes fresh surface to the air year by year, decay of vegetable matter is greatly hastened, part of it is taken up by growing plants, the balance passes off to mingle with the air, and thus in no very long period an unfed soil becomes lean and unproductive.

Now pass to the muck bed, and what have we there? The swamps, lying in the lowest levels, have from time immemorial been receiving deposits of loose vegetable matter washed down from surrounding forests. Much of it has been preserved from decay by being kept under water, until there may often be found from three to ten or more feet in depth of the very substances which have given such fertility to virgin soils. Is it not the plainest dictate of common sense to remove this mass which now nourishes only rank weeds, and exhales malaria, to the fields which have lost their "virgin" power? In addition to the accumulations in swamps, all low lying spots which receive wash from the neighboring region, will contain more or less muck. Every shower carries to them a deposit of loose surface matter, sometimes from a large area. There are thousands of acres of what are termed swales, scattered in detached portions over the farms of this and adjoining States, which from a plethora of fertilizing matter, grow rank grasses and weeds, fit only for litter or the compost heap. The waste plant-food they contain, if returned to the lands which have lost it, would greatly increase their fertility.

Muck is needed on the fields not only for the elements it contains, but as an economizer of barn-yard manure. It is safe to estimate that from one third to one-half the manure produced by animals is lost. The urine of horses and cattle is almost universally wasted. Then, the solid excrements are too generally thrown out into

the open yard to be leached by every rain, or they are heaped under the stable window, to ferment and "fire-fang," and send off their most valuable properties with every passing breeze. Muck, collected seasonably, and subjected to the action of the weather, is of loose porous texture, exactly fitted to absorb and hold these liquid and gaseous elements. A layer of muck in the stable, saturated with urine, is nearly as good as the best solid excrement. A cord of muck thoroughly mixed with a cord of animal excrement, will make two cords of manure worth almost twice as much as the unmixed excrement if left to leach and ferment in the usual manner.

Another very important use of this substance, is to aid in reducing manure to a finely divided state. Manure scattered upon the field in lumps and plowed in, will give a surfeit to the roots that come immediately in contact with it, and leave others less fortunate to starve. Witness the surface of a pasture where cattle droppings have been left as they fell. It presents blotches of rank growth here and there. By composting or mixing with muck, and frequently shoveling over, manure may be brought to coarse powder, the particles of which, scattered through the soil, will be readily accessible to plants, and easily soluble, so that they are quickly prepared for absorption by the growing roots.

The interval between harvest and Fall plowing affords an opportunity for commencing to practice what these facts call for. The swamps are many of them dry and firm; the "swales" have been cut, and other farm work is not pressing. Try the experiment for once at least. Draw from the most available source one load of muck for each load of barn yard manure you expect to produce the coming Winter. Store it in heaps convenient to the yard. If wet, let it remain undisturbed until well dried. Then add a half bushel of lime or ashes to each cord of muck, and mix thoroughly. When Winter comes on, and the stock are brought to the yards, it will be ready for use. Try it once on our recommendation, and when next year's crops are gathered, let us hear the result.

Tim Bunker on Top-dressing and Feeding Aftermath.

A SECOND LOOK AT HOOKERTOWN IMPROVEMENTS.

"Bigger than 'twas last year," said Seth Twiggs, as he looked over into the horse-pond lot where I was mowing this morning.

"I declare it looks like a rye field," said Mr. Spooner, as he measured a head of herds-grass ten inches long, by a small rule that he carries in his pocket. A mighty accurate man, is Mr. Spooner. I expect he gets in the way of exact speech, studying his sermons, for he makes the joints fit so close, that they won't leak water. When he says ten inches, you may know it ain't a sixteenth short. I should expect to find it a quarter over.

"You see it is up to the Squire's breast, plump four foot high," exclaimed Jake Frink, as he leaned over the wall. "Guess I was the biggest fool in town when I sold that piece of land for a song.

"Not half so big a fool then as you are now, for keeping the better half of your farm as starved as this was three years ago," I replied.

It is curious to see how the minds of some people work. They see no beauty, or value, in any thing until it has passed out of their hands, and begins to show its good points under different treatment. This two-acre lot, that was al-

ways a quagmire and an eye-sore to the neighborhood, when Jake owned it, is now a very charming spot, as the grass turns out three tons to the acre. It never paid him the interest on ten dollars an acre. It pays me ten per cent on three hundred, to say nothing of the satisfaction of turning a swamp into a meadow.

Seth Twiggs is right, about the size of the grass, and yet I have done nothing extra for it this year. To be sure the season has been more moist, but that hardly accounts for the difference. You see, in draining a piece of wet land two or more feet deep, you bring a large quantity of surface soil gradually to the action of the atmosphere, and of the rains and frosts. It undergoes a curing process, and the soil improves, year by year, until the water line is reached. This is the third crop I have got off of this lot since I put the drain down, and each year has been a marked improvement upon the last. I suppose I might cut a second crop if the lot was not so handy for pasturing.

And then I have noticed that it is a good plan to feed and mow alternately. I much prefer to mow a common meadow one year, and pasture the next, than to mow straight along for four or five years, as most farmers do. If a meadow is very rich, like this drained lot, I think it does better to feed the second crop, than to mow it. If it produces a ton and a half at the second growth, as I think it will, of course so much is returned to the soil in the manure of the cattle. And then I have another important advantage in the seeds of the clover that are scattered by the cattle. I have noticed that the second growth of clover starts immediately, and as I do not turn in until the last of August, many of the plants, both of the white and red, go to seed, and are scattered before the cattle eat them. I do not believe in feeding late, but leave time for the grass to make a good covering for the roots. As a result of this treatment, I find that clover does not die out the first year as is usual. I have a good deal of clover in fields sown three years ago. Other grasses are benefited in the same way, and the sod remains thick and strong. I have sometimes thought that the feet of the cattle acted like a roller, pressing the seed into the soil. At any rate, the fact is as stated, and I do not mow any second crop, where I can pasture it. I don't think second mowing pays best.

"Have you got rid of 'em?" asked Jake Frink, as he looked over into Uncle Jotham Sparrowgrass' reclaimed bog.

"Rid of what?" asked Jotham with feigned astonishment.

"Why them pesky muskrats, that used to eat up all the outside rows of corn in your field and mine?"

"Haven't seen a musk-rat in these parts for well nigh two year. Have seen some corn, though, and occasionally a potato!" said Jotham, with a swing of his cane that showed he felt as if he was lord of all he surveyed.

He dug over three hundred bushels to the acre there last Fall, and the part now planted to that crop is as handsome as any thing I have seen this season. Uncle Jotham manages pretty well for an old style farmer, catching at any improvement with a good deal of eagerness, but stoutly denying that it is new. He has always seen something like it over on the Island, thirty years ago. He has had, this year, in about equal patches, potatoes, corn, oats, and clover, upon this deserted domain of frogs and muskrats. The clover was quite too large for good fodder, or would have been, if he had let it grow till the usual time of cutting. But it was cut in June,

a thing he would not have thought of, three years ago, and he will have, at least, two tuns at the second cutting, if he does not steal my thunder, and feed it off. But if he does that, he will be sure to state positively, that he knew Ben Woodhull, on Long Island, to do the same thing as long ago as when he was a boy.

Coming back to my horse-pond lot, Mr. Spooner had to ask "what makes that grass so much heavier on the back part of the lot? It is almost another story high."

"Well, you see, thereby hangs a tale. Last year, as soon as I got through mowing that part of the field, say about the tenth of July, I spread on a few loads of compost there, and you can see just where it stopped. The compost was made of pig-pen manure, with muck rather fresh dug. I had a good deal of query in my own mind about the best time of spreading manure on mowing land, and had pretty serious doubts about mid-summer, and feared the loss of ammonia, etc. This don't look as if the manure lost much of its strength. The rest of the piece was top-dressed in March, and it is not near as heavy. I am not prepared to say, exactly, that I think mid-summer is the best time, for I suppose the grass has not got all the strength of the manure put on this Spring, and another season, or the after feed this year, may make the case look different. I have no doubt the manure put on last Summer acted as a mulch, sheltering the roots of the herds-grass, which suffer extremely, and are often killed by too close cutting. The roots got strong and vigorous during the Fall, made a good math for protection during the Winter, and started early this Spring.

As advised at present, I should put manure upon any level piece of land, whenever I happened to have it. I think it will pay better interest on the meadow than in the yard, and accordingly I shall clean up this month, and spread every spare load I have upon the meadows. Cutting a tun of hay to the acre don't liquidate, when you can get three, just as easy, with more manure. Things are looking up notwithstanding the war. Breastworks will be plenty.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, July 15, 1861.

For the American Agriculturist.

Something Better than Guano.

Don't be frightened, dear reader; we have no highly improved, excelsior, patent fertilizer to puff and to sell. What we speak of, every man may have in his garden, viz: the refuse of his brush-heap. For several years past, we have gathered heaps of small brush, weeds, prunings of evergreens, of grape vines, pear, plum, currant bushes, etc., into an out of sight corner, and at occasional intervals, have burned them. Piles of quack-grass, dock and Canada thistles, have contributed to the richness of the heaps. When convenient, we have carried into this corner, thick sods, and lumps of heavy clay, which, when partly dried in the sun and wind, have been laid over the burning heaps. The residuum of these frequent fires has furnished the material which we style "better than guano"—not better, perhaps, than guano when managed by experienced hands, but safer, and so better for popular use.

Nothing makes potted plants grow so splendidly as a handful or two of this article, mixed with common soil. If a favorite pear-tree gets lagging, it is sure to wake up and keep awake, if treated with our specific—the small and yel-

low foliage giving place to large and vividly green leaves. And so, for evergreens, grapes, melons, and the like, it does wonders. We only add that, after each bonfire, the refuse should be gathered up in barrels and kept dry. G.

Manure used on Long Island.

A writer in the Country Gentleman says, "The amount of manure used in Kings and Queens Counties, N. Y., is almost incredible. In addition to what we make at home, from the best estimate I can make, we must purchase no less than two millions of carman loads annually, and probably exceed this amount, adding other fertilizers to the account. John Johnston of Geneva, N. Y., felt sure it would not pay to purchase manures at the present prices, but although it does frequently appear so to us, yet the facts are to the contrary. He that manures the best, but not in excess, succeeds best in farming, and to do that, manure from the city must be bought."

We can fully credit the above estimate from our own observations. Every day in the year long lines of wagons loaded with New-York stable manure may be seen crossing the ferries to Long Island, there to be manufactured into vegetables, grain, and hay for the City market. One farmer said, "we ride manure one half the time and garden truck the other half." In addition to this, hundreds of sloops and schooners are constantly plying back and forth, laden with street sweepings and offal, which sell readily for cash to cultivators. The best comment on such an outlay for manure, is the fact that the farmers and market gardeners of Kings and Queens Counties are getting rich farms, great crops, and full purses.

The New Insect in Rye.

BY DR. ASA FITCH, N. Y. STATE ENTOMOLOGIST.

To the Editor of the American Agriculturist.

The insects coming from the rye straw which you received from Pennsylvania, and forwarded to me the commencement of the present month, were new to me, and having completed my examination of them, I now communicate to you the result.

I will first describe the diseased appearance which this and kindred insects produce in the straw of the different kinds of grain which they attack. Just above one of the lower joints of the straw, a swelling or enlargement occurs, which is more or less prominent as the number of insects nestled within, is greater or less. The straw, it will be observed, near the joint, is composed of two distinct parts, a central hollow stalk, and a sheath surrounding it—this sheath commences at the joint, and at its upper end separates from the stalk and forms a leaf. Now, on parting this sheath at the swollen part, the disease is found to be seated, not in it, but in the central stalk inside of it. This presents an uneven surface, knurly or knotty in its appearance, with several elevated smooth spots like blisters, between which the longitudinal veins or tubes which are naturally straight and parallel with each other, are seen to be curved, crowded together, and variously distorted. On cutting into the glossy elevated spots, a small cavity is there found, in which lies a soft white footless worm, perfectly quiescent and seemingly lifeless. In the straw sent me, these worms had completed their growth, and were already changed into small black flies, which were

gnawing out of their cells, leaving a perforation like a pin-hole in the straw, wherever one of them had made its exit.

The insects have four clear glassy wings, which are destitute of veins, except a short coarse rib-vein near their outer edge, and their antennæ are elbowed or flail-shaped, like those of the bee and ant. They pertain to the Order *Hymenoptera*, and the Family *Chalcididae*.

Our best authorities in Entomology, inform us that the insects belonging to this family are all parasites, living upon other insects, and not on vegetation. Their habits are the same as those of the family of Ichneumon flies, next to which they are placed in our books. The fly, with its sting, pierces the skin of caterpillars and other larvæ, inserting an egg therein, from which a maggot hatches, which feeds internally on the larva, until it kills it. And by thus destroying insects which are injurious to us, they are to be regarded as friends and not enemies to man.

But in our American grain fields, we are now well assured, some of these Chalcidian insects occur as vegetable feeders, themselves injuring and destroying the grain, and not as parasites destroying other insects nestled in the grain. The evidence on this subject is of sufficient interest to be briefly narrated in this place.

For several seasons, about the year 1830, the barley crop, in the North-eastern counties of Massachusetts, was greatly injured by a disease at the lower joints of the straw, the same as that which I have described above. Some of this straw was sent to the late Dr. T. W. Harris, from which he obtained a number of these Chalcidian insects, which he described under the name *Eurytoma Hordei*, he supposing them to be parasites, which had destroyed all the real depredators in that parcel of the straw.

Some ten years since, public attention became directed to an insect called the Joint worm, in the wheat of Virginia, devastating this grain to such an extent as to wholly destroy the crop in some fields. A parcel of the diseased straw was sent to Dr. Harris, who divided it, and forwarded to me the larger portion. We together bred upwards of a hundred and twenty flies from it, which were so closely like that in the barley above alluded to, that we both concluded they were mere varieties of one insect. And now, as we obtained no other insect therefrom to which the disease could be imputed, our convictions became strong that this insect was not a parasite, but was itself the real culprit. I have since received similar straw from Virginia and from Maryland, without obtaining any insect save this therefrom, and other persons who have also bred the Joint worm to its perfect state, have had the same result.

For five years past, the barley crop in Onondaga and the neighboring counties of our own State, has been much injured by this same malady in its straw. I have received parcels of the affected straw from Hon. George Geddes, L. Lincklaen, Esq., of Cazenovia, and others, from which a host of these Chalcidian flies, and nothing else, have been obtained. All doubts that it is these insects which cause this affection of the straw are thus dispelled, at least from my own mind.

I had confidently expected this barley straw from Central New-York would give me the identical insect which had infested the Massachusetts barley. But on coming to examine the flies it yielded, not one of them had the legs black, as they are described to be in that species. And now that I come to see in such a multitude of examples, that the legs of this barley fly, and

also of the Joint worm fly were constant in their colors, and not liable to vary, it became evident to me that these insects were not varieties of the Massachusetts barley fly, but were distinct species. I accordingly named and described them as such, two years since, in the Journal of the N. Y. State Agricultural Society, vol. ix, p. 115. And to these is now to be added a fourth species, this in the rye, which I propose to name the Rye fly, *Eurytoma Secalis*.

These four insects all affect the growing grain in the same manner, and are closely alike in their size and colors. They resemble small ants, black and shining, one-tenth of an inch in length, or slightly over. In all of them the feet are dull white, with their ends black, and their knees are dull pale yellowish. They are readily distinguished from each other, on carefully inspecting the color of the shanks of their forward, middle, and hind legs, with a magnifying glass, which will show them to differ as follows:

The BLACK-LEGGED, or Massachusetts BARLEY-FLY, (*Eurytoma Hordei*, Harris,) has the shanks of all the legs black.

The JOINT-WORM FLY, (*Eurytoma Tritici*, Fitch), has the shanks of the forward legs dull pale yellow, the others black.

The RYE FLY, (*Eurytoma Secalis*, new species,) has the fore and hind shanks dull pale yellow, and the middle ones black. Of this I have fifteen specimens now before me. The hind shanks are dusky and less bright than the forward ones, but are manifestly paler than the middle ones.

The YELLOW-LEGGED, or New-York BARLEY FLY, (*Eurytoma Fulvipes*, Fitch,) has all the shanks, and also the thighs, of a brighter tawny yellow, or pale orange color.

These insects, I have no doubt, pierce the green stalks of the grain with their stings, and insert their eggs therein, one in a place, just above the lower joints, and from these eggs come the worms which we afterwards find there on dissecting the straw.* The males are much less numerous than the females, and are usually smaller in size, and have the abdomen or hind body oval and somewhat depressed or flattened. Hence I have doubted whether these insects rightfully pertained to the genus *Eurytoma*. I have never met with the species described by Dr. Harris, till three weeks ago, when several were gathered in a rye field in my neighborhood. In this species the abdomen of the male is strongly compressed, and it fully presents other characters of the genus *Eurytoma*, which are less evident in the other three species. Thus this point, which has given me much perplexity, is now made more clear.

I have only time and space to add, that these insects, or at least a considerable portion of them, remain in their cells in the straw through the Winter, to come out the following Summer, as soon as the grain crops on which they respectively prey are sufficiently grown to be adapted to their wants. These Rye flies, which we see already matured and coming out of the stalks early in June, probably insert their eggs for another crop in the same grain, the insects from which will be lying in the straw when it is harvested and threshed. The swollen portions of the straw are so hard and brittle that they mostly break off in threshing, and some of

them are broken into such small fragments that the fanning mill is unable to separate them from the grain. And probably the most feasible mode of combatting and destroying these insects, is, to burn the straw containing them. Is it not practicable, at harvest, to cut the grain so high up that these swollen, knotty portions of the straw will all be left in the field? If so, by afterwards burning the stubble, all the insects therein can readily be destroyed. A. FITCH.

Washington Co., N. Y., June 18, 1861.



The Seed Cut.

This apparatus is recommended by a subscriber as a convenient box for sowing seeds. It is in common use in some parts of England, and takes the place of a bag or bushel basket with us. It is described as a box twenty four inches long, about eight inches deep, each side to be ten inches wide at the widest part and diminishing to seven inches in the middle, the shape being oblong, rounded at the ends and deeply indented on one side, to suit the curvature of the workman's body. The materials might be such as are generally used in making cheese boxes. On the outside is attached a handle, like the nib or thole of a scythe stick, by which the left hand steadies the implement, and on the inside is a hook to receive a ring attached to a strap, or web, slung over the right shoulder, by which the seed cut is suspended. From this description it will be seen that the moon in its second quarter, with the horns rounded, gives one a good illustration of this vessel. It would be a very convenient article for sowing grain broadcast, and the hint is worth considering by manufacturers of agricultural implements.

Potatoes—Deep and Late Planting—Large Yield.

A. L. Folger, Rush Co., Ind., writes to the *American Agriculturist*, that he last year plowed and manured well a piece of land for potatoes, letting it lie until the middle of May, when it was thoroughly pulverized with roller and harrow. Deep furrows were struck out with a shovel (or double mold-board) plow, and large potatoes selected and cut up into small pieces, were dropped in the bottom of the furrow, six inches apart. These were covered with the plow nearly a foot deep. They were cultivated by running the double shovel-plow between the rows, and hilled twice with the hand-hoe. As the result, a portion was measured off and dug, and the yield was at the rate of 688 bushels to the acre! He asks if any one can excel that. [The account would have been more complete

and satisfactory, if Mr. F. had told us what kind of a soil he had, its previous treatment, the kind and amount of manure used, and the kind and quality of the potatoes grown. All these items are needed to make such experiments fully instructive to others.—Ed.]

For the American Agriculturist.

Steaming Soft and Frozen Corn.

As last Fall was wet and quite unfavorable for ripening the corn crop in this section, I had considerable that was unsound, and consequently not fit for market. In order to dispose of this to the best advantage, I bought four three-year old steers, the 12th of last Dec., to fatten. I made a tight box bound with hoop iron, large enough to hold one bushel of ears. In the bottom several half-inch holes were bored, and on the top of the same, inside of the box, I nailed a piece of tin, punched full of small holes. This box was set on a common kettle filled with water, and placed on the cooking stove. In two hours steaming, although the corn may be somewhat mouldy, it will become soft, cob and all, and smell like fresh green corn. I steamed in the morning, and let it stand in the box to feed at night, and fed it a little warmed, and sprinkled with salt; and then steamed at night for use in the morning.

I fed to the above number of steers two bushels of steamed ears of corn per day for sixty days, and never have had cattle do better when fed on corn meal. I have fattened more or less cattle for several years, and always feed all the grain or meal they will eat up clean.

Niagara Co., N. Y.

SUBSCRIBER.

The Hydraulic Ram.

A subscriber asks the following questions.

1. "Will a spring, the water of which runs in a $\frac{1}{4}$ inch pipe be sufficient to drive a Hydraulic ram so as to raise the water fifty feet within a distance of twenty five rods, with eight feet head?" *Ans.*—Here are all the conditions for the successful working of a ram.

2. "How much water would be discharged in 24 hours in such a case?" *Ans.*—This would depend upon several particulars not given in our correspondent's letter, as the length of the driving pipe, and the size of the discharge pipe, etc. It would be abundant for supplying water to the house, for all the animals kept upon the farm, with a surplus for watering the garden. A driving pipe weighing 2 pounds to the foot, and $\frac{1}{4}$ inch bore would be stout enough, and a discharge pipe $\frac{3}{4}$ inch bore weighing $\frac{1}{2}$ pound to the foot.

3. "What will be the cost of the ram, and is there any better way of raising water?"

This is undoubtedly the cheapest method of raising water yet discovered. Messrs. W. & B. Douglas of Middlesex Co., Conn., manufacturers of rams, can answer all questions in regard to the size wanted, price, etc. The smallest size costs about five dollars without the pipes.

COMMISSIONER TO THE WORLD'S FAIR.—The Secretary of the N. Y. State Agricultural Society has been directed by the Executive Committee to correspond with the Government at Washington, soliciting the appointment of a Commissioner to represent American interests at the great Exhibition to be held in London in 1862. This is done with a view to secure a representation of our agricultural, mechanical, and industrial interests at the Exhibition.

* Since the above notes were written by Dr. Fitch, we have received additional specimens from Mr. Steck, accompanied by an account of further observations, which fully establish the correctness of Dr. F.'s views. The eggs were readily detected with a microscope, within the excrescence on the stalk. Mr. Steck says he was in error as to the eggs being deposited on the leaf.—Ed.

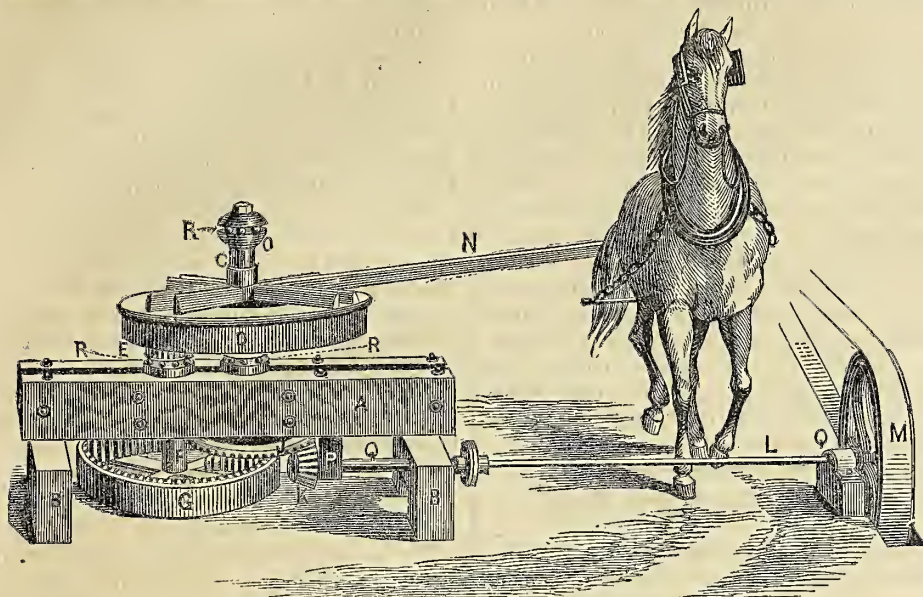


Fig. 1—SANFORD'S IMPROVED HORSE-POWER.

Farm Machinery.**SANFORD'S "ANTI-FRICTION" HORSE-POWER.**

The improvements constantly making in Steam Engines, tending to greater effectiveness, simplicity, and cheapness are bringing them into more general use, and doubtless the day is not distant when a large proportion of the heavier agricultural operations, such as plowing or soil-stirring, threshing, etc., will be mainly performed by steam. The single fact that the steam engine consumes no food when not at work, is a strong argument in its favor, as compared with horse-power, for work carried on at only occasional periods—though this is in part overbalanced by the consideration that horses or mules can be used for other purposes, when not required for temporarily driving machinery, and the interest on the capital invested in machinery standing idle much of the time, is thus saved.

That farmers, as a class, do not yet fully appreciate the economy of a good horse-power, is evident. Take a single illustration: Suppose 15 cords of wood to be consumed during a year on a single farm. To cut this with an ax fine enough for stoves, would require 15 days' work at least, worth \$1 a day, wages and board included. With a light horse-power geared to a circular saw, costing \$100 to \$125 all complete, a man with a horse would easily cut this amount of wood in two days at the outside, and do it in a better manner with far less waste of chips. Call the horse worth \$1 a day, or \$4 for the two days of man and horse, and there is still a saving of \$11—or enough to pay 7 per cent interest on an outlay of \$100, leaving \$4 for wear. The same power can, of course, be used for threshing and other work, making it of still greater value.

For small operations, we have esteemed the "rail-road horse-power" as on the whole the simplest and cheapest. But for a complete farm power, adapted to all sorts of work, threshing, wood cutting, ginning cotton, pressing hay, etc., where two or more horses are required, a heavier and more substantial power is needed; and for such a power there is, perhaps, none better than the one illustrated in the accompanying engraving. It has the merit of being strong, compact, readily moved about, and free from friction so far as possible. We append a brief

DESCRIPTION.—In fig. 1, the bed or main frame, A, A, is firmly secured to the bearings, B, B.

The driving wheel, D, turns upon the shaft of another wheel, J, below, which saves one shaft and secures compactness. A peculiarity of this power is the arrangement of round iron balls, R, R, at different points, to support the wheels and save friction. The placing of the cogs on the inside of the rim is claimed as another advantage, securing strength and compactness. It will be seen that the drive wheel, D, turns the

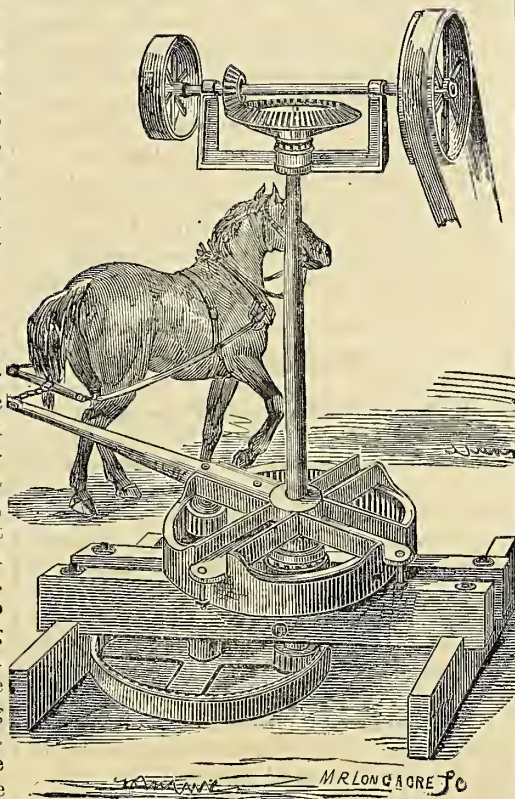


Fig. 2—HORSE-POWER FOR IN-DOOR USE.

pinion, E, on the shaft of the large wheel, G. The cogs of G, play into the pinion of J, while the cogs of J, play into the pinion, K, on the shaft of the band wheel, M. P, is a wrought iron "hanger," supporting the bearing, Q. The bearings subject to much friction are prepared with Babbitt's metal, which renders them very durable. The band wheel, or pulley, M, makes 52 rotations to one of the drive wheel, D. The size of M, is varied to give any velocity required.

For in-door work similar wheel work is used, but the central shaft is carried upward as shown in fig. 2, and the wheel, J, placed at any desired height. As above hinted, these powers are taken up and set down very readily, which is a convenience where portable power is needed. They are manufactured by Bennett Brothers, and the entire workmanship of all we have seen appears to be substantial and made upon honor. The price of the medium size, for one to three horses, is \$125, and of the larger size, for four to six horses, \$175.

What England Bought in Three Months.

In looking over the official tables of the value of sundry articles imported into England during the first three months only of the present year, and for the same period last year, it occurred to us that the readers of the *American Agriculturist* would be interested in examining a few of the figures which we have reduced to our currency. Take a common map of the world, and note the little colored spot about the size of the thumb nail allotted to our ancestral island, and then look at the following figures, showing the money value of a few items carried there in 90 days!

	Value—1861.	Value—'60.
Wheat and Flour.....	\$34,184,725	\$5,556,885
Indian Corn.....	4,339,640	1,696,650
Barley.....	4,048,030	3,161,980
Oats.....	926,110	762,360
Beans.....	967,045	710,145
Peas.....	670,385	245,595
Flax.....	1,555,035	2,323,400
Flax Seed.....	2,939,745	2,445,180
Hemp.....	776,735	755,255
Hides.....	1,666,140	2,571,575
Butter.....	3,807,900	3,424,560
Cheese.....	1,111,340	1,115,390
Rice.....	1,374,550	734,650
Sugars and Molasses.....	12,743,435	10,123,730
Cotton.....	45,266,945	54,065,565
Silk (Raw).....	10,801,705	11,420,540
Coffee.....	1,322,290	1,475,420
Tea.....	11,003,685	10,005,180
Tobacco.....	1,596,555	529,975
Wool.....	5,651,495	8,195,455
Tallow.....	1,587,460	1,289,200
Oil (Olive).....	1,653,135	2,661,240
Currants (dried).....	642,985	541,045
Raisins.....	447,615	244,670
Wines.....	4,501,400	3,943,030
Timber and Wood.....	3,627,965	2,450,215
Indigo.....	875,660	783,480
Guano.....	2,383,840	1,095,545
Nitrate of Soda (for manure).....	241,315	740,780
Oil Seed Cake.....	980,765	620,905
Total.....	\$163,706,020	\$135,709,920

One hundred and sixty three million dollars' worth of products imported during three winter months!—The marked increase in the imports of breadstuffs, (wheat and corn), will be specially noted, amounting to about \$40,000,000 for the quarter year. As this was all for home consumption, it indicates the effect of bad weather on a single crop upon a comparatively small area. Among other items of interest in the table, will be noticed the large amount of butter, cheese, wool, and tallow. Also the consumption of beans and peas, which are more highly esteemed in England, for feeding, than here. The same may be said of oil cake, and of flaxseed which is manufactured into oil and oil-cake. It will be seen that nitrate of soda is imported to a considerable extent as a fertilizer, the \$740,000 paid for it in three months last year, being equivalent to over twenty million pounds, or ten thousand tons. The \$2,383,840 paid for guano, is equivalent to about eighty million pounds, or forty thousand tons!

A CONSIDERATE WOMAN.—"Madam," said a gentleman to the mother of a noisy child, "a good many persons were disturbed by the crying of your child at the concert last night." "Well," replied the considerate woman, "I do wonder such people will go to concerts!"

Why Horses Kick—Rarey's Method of Cure.

Kicking is the worst vice which horses are taught. Few men will deny the first part of the assertion, but some will doubt that the vice is the result of education, for, say they, does not the horse kick by natural instinct, as a protection against enemies? Certainly he does, and if he is made to think (for horses *do think*) that every touch upon his flank and hind quarters, and every rattle he hears behind him, are from an enemy, he will let drive in the most natural manner.

The character of a horse is established during the first four or five years of his life. If through accident or design, a colt be alarmed from behind a few times, particularly if he receive a sudden blow, he will learn to expect danger from that quarter, and to ward it off with his heels; and the finer and more spirited his organization, the more likely he will be to acquire the vice. For example, a young colt had become quite troublesome by entering neighboring fields, over the dilapidated fences of his owner. After repeated annoyance, and much vain expostulation, one of the aggrieved parties caught the colt while trespassing, fastened a tin pan to his tail, and turned him loose. Away went the frightened animal, plunging and kicking to get rid of the fearful enemy banging at his heels, and he nearly killed himself before breaking it loose. From that day he was a confirmed kicker: not a leaf could rustle in his rear, but his heels would fly like lightning, and he was harnessed and driven only at the peril of life. Another colt was taught to kick while confined in the stable, by his owner ignorantly trying to "break his spirit." This he did by belaboring him with a cow-hide, and yelling at the top of his voice! The horse was frightened into the belief that man was an enemy, and he acted accordingly, kicking at every one who did not first terrify him into temporary submission. This was as sensible as the advice of an English horse-breaker of the olden time: "If your horse does not stand still, or hesitates, then alrate (yell) with a terrible voice, and beat him yourself with a good stick upon the head between his ears, and then stick him in the spurring place, iii or iiiii times together, with one legge after another as fast as your legges might walk; your legges must go like two bouncing beetles!"

In the training of the colt, too little attention is paid to educating the whole animal. He should be gently and continually handled, not only about the head and mouth, but from 'end to end.' First invite his affection by little presents of corn, or a few bread crumbs. Having gained his confidence, smooth his neck, then gradually extend your attentions along his back, and down his flank, and so on day by day advancing a little at a time, until you may safely handle every part. In time he will learn to bear a smart slap upon the haunches without thought of retaliation, and when once he has learned this, he can not be made to kick by any fair usage. The man who *abuses* a horse deserves a kick.

But can a confirmed kicker be cured? Rarey says yes, and if one can exercise Rarey's firmness, good sense, and *patience*, we believe he can make the worst kicker safe. We witnessed his treatment of a most dangerous mare, and the effects of the one lesson given seemed marvellous. He first applied the strap to the fore leg as described on page 36, (Feb. No.), then led her around upon three legs until the creature found she could not kick. He next threw her,

and commenced handling her flank and hind quarters, at which she kicked violently. But she soon found that nothing resulted from it; nobody was hurt, frightened or angered, and in about fifteen minutes her intrepid conqueror lay down and placed her hind foot upon his head. When she was released, he mounted and dismounted repeatedly, until she allowed him to sit quietly upon her haunches. Such lessons repeated half a dozen times or more, as the case might need, he said, *would tame her hind quarters*. Our advice is, first, don't teach your horse to kick; but if unfortunately you have been cheated in trade, and are the owner of a dangerous beast, don't try to cheat any one else; try the Rarey method thoroughly, or employ an experienced horseman to do it, and so make the best of a bad bargain. *

To Hold a Hard-headed Horse.

To the Editor of the American Agriculturist:

I wish, through the medium of your common-sense paper, to describe a simple method of holding a fiery, hard bitten, or run-away horse. Put the buckle or snap of the rein *through* the bit ring, and fasten it to some part of the bridle between the ears and mouth of the horse. The advantage of this easily and quickly made arrangement is two-fold; 1st, it draws the bit directly into the corners of the mouth, whatever be the position of the horse's head; 2nd, the force exerted on the bit in this manner by the same power at the end of the rein, though not quite doubled, is very much greater than when the rein is attached simply to the bit. By this means, I have seen the most fretful and ungovernable animal immediately converted into a serviceable plow-horse, while my eased limbs and shoulders gave direct testimony in favor of the diminished labor of managing the team.

The arrangement is also convenient in driving an ill-matched team, one horse being a fast, and the other a moderate traveler. Arrange the reins as directed, for the fast horse, leaving the others in the common way. N. P. BLAKESLEE.
Oakland Co., Mich.

Black Leg in Calves.

We have never had a case of this kind in our calves, or, indeed, disease of any kind. In this as in other matters, an ounce of prevention is worth a pound of cure, and we have always used the ounce. Dr. Dadd, who is authority upon these diseases, says: "the farmer will overcome a host of obstacles, if he considers joint murrain, black-leg, quarter-ill or evil, black quarter, and dry gangrene, as all analogous. By the different names are meant their grades. In the early or mild forms, it consists of congestion in the veins or venous radicles, and effusions into the cellular tissue. When chemical action overpowers the vitality, decomposition sets in, and it then assumes a putrid type; mortification or a destruction of organic integrity is the result."

Causes.—Its proximate causes exist in any thing that can, for a time, interrupt the free and full play of any part of the vital machinery. Its direct cause may be found in over-feeding, miasma, exposure, poisonous plants, poor diet, etc. The milk of diseased cows is a frequent cause of black-leg in young calves. The reason why the disease is more likely to manifest itself in the legs than elsewhere is, because they are more exposed by the feet coming in contact with the damp ground, and because the blood has a kind of up hill work to perform.

Treatment for Black-leg.—Efforts must be made to depurate the whole animal, and to arouse every part to healthy action. Antiseptics may be used in the following form: Powdered bayberry bark 2 ounces, powdered charcoal 6 ounces, powdered cayenne 1 teaspoonful, powdered slippery elm 1 ounce. Add boiling water enough to make it of the consistence of thin gruel.

All foul ulcers may be washed with chloride of lime 1 ounce, and 1 pint of water, or with chloride of soda 1 ounce, and water 6 ounces. The affected parts should be often bathed with one of these washes. If the disease is not arrested by these means, repeat them, and put the animal on a diet of flour gruel."

Calves should not be allowed to run with their mothers, if the cows are diseased. They should be kept on a dry stable floor or in a dry place.

How to Feed Calves.

The following communication, by the veteran farmer, John Johnston, of Western New-York, published in the Rural New-Yorker, is in proof of what every good authority insists on, that it pays better to be liberal in feeding stock, especially growing animals:

"On the 1st day of last month, my neighbor, Mr. Swan, sold ten two-year old cattle at a little over sixty dollars each. None of them were older than two years last March, and four of them were two years old from last June until September. Nine of them he raised on his farm, and one was bought when four months old. They were only ordinarily well kept when fed milk. It is very difficult to get hired people to attend properly to feeding calves. Either too little or too much feed is injurious. The first Winter they had each daily one quart of oil cake meal and good hay; then good pasture in Summer. The next Winter they each had only two quarts of corn meal ground fine, cob and all. (If not ground fine I think the cob injurious.) On the 6th of last May, these and thirteen others were turned to pasture on a thirty-five acre field, and on the first of June, or a few days after, sixty-nine sheep were put on the same field. Some cattle were taken out and others put in in their place; and the thirty-five acres pastured that stock, and made the whole fat until the last day of November. When yarded, the ten cattle were fed six quarts each daily, of fine ground corn and cob meal, until sold on first of January. I have known Mr. S. to have his two-year-olds more than 100 pounds each heavier, but never any so fat—four of them coming so late as from the end of June to the 15th of September, brought down the average weight."

"Now farmers can make their own calculations whether it is better to feed cattle as Mr. S. fed his, and sell them for \$60 each and upward, or feed them in the common starvation way, and have them worth from \$15 to \$20. I know that if these cattle had been properly attended to the first four months, they would have been worth more money. I have known him to sell his cattle at the same age for considerable more money, but when beef was higher, and I presume there were four of them younger this year. I believe it to be a duty every farmer owes his country, to make his land produce all he possibly can, either in grain or stock, and I have never yet seen a farmer who thought he had raised too much after he had marketed his products."

SPECIAL PREMIUM FOR THREE-YEAR OLD STEERS.—Twenty dollars have been contributed

by two members of the N. Y. State Agricultural Society toward a purse of \$50 for a show of three-year old steers at the next Annual Exhibition at Watertown, Sept. 17 to 20. It is proposed to give three prizes, of \$25, \$15, and \$10, respectively, for the best single animals. Those having choice beasts of that age, may do well to complete the amount and enter for competition. The awards will be made by Judges appointed by the Executive Committee.

Live Stock from Vermont.

C. T. Alvord gives, in the Country Gentleman, the following report of live stock sent from Vermont to Boston market during 1860:

	Cattle.	Sheep and Lambs.	Horses.
January.....	1,272	4,590	23
February.....	1,155	4,359	29
March.....	1,031	3,133	67
April.....	606	3,540	94
May.....	605	3,635	44
June.....	754	4,621	86
July.....	1,043	7,060	90
August.....	1,039	7,755	131
September.....	2,424	14,461	85
October.....	2,502	9,952	—
November.....	2,006	11,502	42
December.....	1,830	7,434	—

Making a total for the year of cattle, 16,267; of sheep and lambs, 82,242; and of horses, 711. Besides these, large numbers of animals are bought in Vermont by farmers in Massachusetts and Connecticut, for fattening; and many others, particularly horses and sheep, are sold to different parts of the Union for breeding purposes. Agriculture is emphatically the business of the Green Mountain State. Just now, we may add, she is sending stock of another character to sustain her ancient reputation. Several regiments of her "Boys" have already passed the *Agriculturist* office on the way to "the war."

What Ails the Lambs?

R. Whittemore communicates to the New-England Farmer an account of great mortality among the lambs of several flocks in the vicinity of St Albans, Vt. The ewes were in good condition, but many of the lambs died shortly after birth, and those which lived had so little strength that they could not stand before two days old. They appeared to be lacking in strength of bone, and their legs and backs grew crooked and deformed. One owner of a flock thus affected, attributed the difficulty to having fed the ewes with buckwheat, as another flock which he kept in an adjoining town, had no buckwheat, and the lambs were all healthy. However, the disease appeared in a flock fed with oats and wheat bran, so that the buckwheat theory is not sustained. Perhaps some of our readers in that vicinity can give further information on the matter.

SCAB IN SHEEP.—Youatt recommends an ointment for this disease, prepared of common mercurial ointment, and three times its weight of lard, for very bad cases. Where the disease is light, or has but just made its appearance, use five parts of lard to one of the ointment. The ingredients are well rubbed together, and the scabs are smeared with it. Another recipe for this disease is, one ounce of corrosive sublimate, four ounces of sal ammoniac, dissolved in four quarts of rain water. This is a powerful stimulant, and should be used with caution. Well fed sheep, or those that run in dry hilly pastures, are seldom troubled with this disease.

TO PREVENT HENS EATING EGGS.—A writer in the Country Gentleman recommends to saw

nailed in two, and tack a stout piece of cloth on one end of each, for a hen's nest. They are nailed up in the barn or henery, and are readily found and appropriated for the purpose intended. The laying hen is hidden in them so that her companions are not on the lookout to devour the egg as soon as laid. Again, it is difficult for a hen to stand upon the keg and pick the egg, and the moment she hops in, the egg rolls against her feet, where she can not well reach it with her bill. He prefers the cloth bottom to the ordinary head with straw laid in.

For the American Agriculturist.

A Few Blunders.

Undertaking too much—Draining—Dahlias—A Troublesome Shade Tree—Bean Poles and Pea Brush.

People don't like to confess their faults, or publish their blunders: it is their good deeds and their successes that are proclaimed from the house-top. Would not a change of practice be sometimes beneficial? Behold herewith an example of humility!

1. I have blundered, for many years, in undertaking to do too much. I have been ambitious of owning extensive lands, and of farming on a large scale. As might have been expected, what the work has gained in extent, it has lost in thoroughness. In the fresh ardor and bracing air of Spring, I have laid out too much work—too much for man and woman and beast, and then have worried and over-driven the whole establishment, and in the end have effected less than if less had been attempted.

2. I lost many years of good farming by neglecting to drain lands which needed it. As the soil was dry enough in mid-summer, I imagined that it did not require draining. So I plowed and manured and toiled hard in every way except in making a few good ditches, and then sat down to wonder at my ill-luck. At length, my eyes got open, and the land got a thorough draining, and presto! how the soil warmed up, and how the crops augmented, and that with less labor! Surely, I shall never blunder so again.

3. I once bought a dozen of the finest dahlia tubers that the market afforded, and, for the first year, had a grand display. Some of my neighbors seeing their brilliant show, begged me to divide a few roots with them when the next Spring should come around. At the appointed time, I began benevolently to "divide" them. And this is the way it was done: I broke off the tubers close up to the point of junction with the crown, leaving none of the neck of the plant on the tuber. My neighbors, ignorant as myself, set them out with great care; but, to their disappointment, got no dahlias from them. I also packed up a small box of the same tubers, and sent them by express as a present to a friend in a distant State. Imagine my chagrin, when that friend wrote, acknowledging my good intentions, but informing me that I had not sent him anything that would grow. My eyes were again opened, and since then, I have been careful to secure a *bud at the collar*, as well as a tuber for any plant.

4. I once planted a Silver Abele on one side of my front yard, and a yellow Locust on the other. They grew rapidly, and made a fine appearance for several years. At length, I had occasion to dig some post holes in the neighborhood of one of these trees, and to trench the ground for flower beds near the other. Lo! what an army of little abeles and locusts sprang

up. This was the beginning of much trouble. Whenever and wherever a root of one of these trees was hit by a spade, it has sent up suckers, and oftentimes without such provocation. They shot up in flower-bed, foot-path, and lawn, just where they were not wanted. After two years of great impatience, the vow was made to exterminate these trees, root and branch. The work cost no little time and money, but it has taught me not to plant such trees in lawns or near flower gardens, or in any ground that is cultivated.

5. Blunder fifth respects bean poles and pea-brush. The brush *ought* to be cut in the Winter, at the time of wood chopping, and then stacked away under cover. But I have, for many years, neglected this matter until the peas were up, and then, nearly all the brush in the neighborhood has been gathered and burned in the farmer's annual bonfires. And when, after scouring the hills and valleys, I have collected a little, it was left out all Summer and Winter to rot, whereas it should have been housed as soon as the peas were ripe. And my bean poles testify against me. They should be gathered up early in the Fall, and put away under cover.

Let no one be so simple as to suppose I make any such blunders now-a-days! Otherwise I should not be so free in confession. If rightly improved, even mistakes may be profitable, but it doesn't pay to repeat them too often. LEARNER.

A Beginner's Troubles.

Raspberry Cultivation—Planting Trees in Holes—Treatment of Osage Orange Seed.

"MR. EDITOR: I want a little advice. Two years ago, I began to take your paper, and ever since then my zeal in gardening has increased. My success has, on the whole, been satisfactory, but now and then a failure has discouraged me; and I come to you for advice.

1. Getting some plants of the Brinkle raspberry, and wishing them to have a nice, sheltered place, I set them on the south side of a tall privet hedge, at the distance of two and a half feet from the hedge. But, sir, they have made only a weak growth, and yielded only a stray berry or two. What can the matter be?"

[REPLY: The sunny side of a fence or hedge is not as good for raspberries as a partially shaded spot. The finest berries of the field are generally on the shady side of fences, or of wood-lots. But the chief difficulty in your case doubtless was the neighborhood of the hedge. The privet has large masses of hungry roots, which exhausted the soil, leaving little food for your berries.]

"2. As you have always recommended trenching the soil, and digging deep holes for planting trees, I followed your advice, two years ago, in setting out a pear orchard. The subsoil being a stiff clay, I dug holes two feet deep, bringing the red bottom soil to the surface, and putting the surface soil and some good manure into the bottom of each hole. The trees were set out in the Fall. As soon as the heavy rains came on, the water settled in the holes where the trees stood, making a sort of soft pudding, in which the trees swayed about at pleasure. In the Winter, when the ground froze, a sort of tunnel was formed about the stem of each tree, into which Jack Frost came and went as he liked. Next Spring, about half the trees were dead, and the remainder are now only just alive. Now, as all this came from trying to be thorough, and following your advice, what have you got to say?"

[REPLY. Are you sure the *Agriculturist* advised you to dig holes for trees in that way? No, sir. Any body ought to know that if he sunk such pits in stiff clay or hard pan, they would hold water like a bucket. If you buried your good soil at the bottom, and put the tender roots of

your trees in hard clay, they would have been fools to grow. We recommend trenching in certain cases, but do not approve, as a general rule, of bringing the poor soil to the top. Better throw away the poor soil, and fill all the hole with good surface soil. In a soil like yours, we should advise to subsoil the *whole ground*, and then to set the trees in the surface soil, manuring the whole at the same time. Deep holes well filled are good, *but* the holes should never be deeper than the soil is naturally freed from water, or is made so by draining.]

"3. Wishing to start an Osage Orange hedge, I sent to a Western city for seed. Part of it I exposed to the action of frost, by mixing it in a box of damp sand. More than half of it came up and did well. The other part I prepared for planting by scalding it. Then, my ground not being ready, I deferred sowing for forty eight hours; but not fifty seeds ever sprouted. What was the matter?"

[REPLY. Perhaps the seed was worthless—much of that from the extreme West is unsound. But if ever so good, the severe scalding and particularly the two days' keeping after scalding, would be quite likely to entirely destroy its germinating power.]

Model Trees, with Illustrations.

There is as much difference in trees as in men. Some persons seem to think that a tree is a tree, and that is the end of it. If they want a certain number of shade-trees set out in their premises, or by the roadside, and can hire the job done, it satisfies them to know that the specified number are planted, the character of



Fig. 2—A WELL BALANCED EVERGREEN.

the trees being a matter of little or no consequence. We often see persons who can not tell



Fig. 1—EUROPEAN LINDEN—A MODEL FORM.

a pine from a fir; and still oftener, those who can not distinguish between the various sorts of pines, spruces, arbor-vitæ, elms, maples, etc.

But the point we now have chiefly in mind, is, that there is a very great difference between specimens of the same kind of tree. Every rock maple is not like every other rock maple; every Norway spruce is not like every other Norway spruce. Of every kind of tree, there are good, bad and indifferent specimens. Compare a white elm growing in a cold, swampy ground, with one standing in a warm, rich loam. Compare one growing on a bleak hill-top, battered by the winds of fifty winters, its top one-sided, its limbs twisted, gnarled, and stunted, and its trunk covered with mosses—compare such an elm with one which has stood for half a century in a sheltered vale or rich plain, where its massive trunk braced below with buttresses, towers aloft, throwing high and wide its branches symmetrically on every side, and holding up a leafy dome in which majesty and grace are equally combined. Or take a magnolia, or tulip-tree, or chestnut, with unhealthy foliage, or unbalanced limbs, or with the branches trimmed up like a liberty-pole, and compare it with one of the same name, but of better form, such as Mr. Downing loved to look upon and to describe, as "stretching its boughs upward freely to the sky, and outward to the breeze, and even downward toward the earth—almost touching it with their graceful sweep, till only a glimpse of the fine trunk is had at its spreading base, and the whole top is one great globe of floating, waving, drooping, or sturdy luxuriance, giving one as perfect an idea of symmetry and

proportion, as can be found short of the Grecian Apollo itself." We give herewith, (fig. 1,) a model-tree of its kind, the European Linden. The difference in trees of which we now speak, is perhaps more marked among evergreens than deciduous trees, because their beauty depends so largely upon the symmetry and entircness of their branches from the ground to their apex. If the lower limbs are weak, or broken, or unequally developed, or if there are unnatural gaps here and there in the outline, (fig. 3,) the tree will be almost worthless as an ornamental object. It might answer for the forest, but not for a lawn. A *lawn tree*, especially of the coniferous tribes, should be well developed and complete from the top to the very ground. Such a tree implies—what a fine lawn implies—seclusion, refinement, taste, protection from rude hands, and from ranging cattle. In illustration of what we mean in a single case, take figure 2 as a model Norway spruce. And among smaller trees suitable for the lawn, take figure 4, which may be called a specimen of a model juniper.

A *park tree* should have its lower limbs cut off; for here it is understood that cattle,

deer, or sheep, range, who would browse off the branches. Yet the upper portions of every such tree, deciduous or evergreen, should be well-balanced, and the trunk and foliage healthy; for a park is a pleasure-ground, and the trees are supposed to be selected and planted with an



Fig. 3—A BADLY TRAINED TREE.

eye to ornamental effect. A *road-side tree* should be of the same general character as the park-



Fig. 4—A MODEL JUNIPER.

tree. The lower branches must be hewn off, ten or fifteen feet high, so as to allow free passage for vehicles, and openness of view in all directions. It is especially needful, however, that they be of the toughest sorts, because they will be exposed to more injuries than park-trees. Forest trees are models of their kind, just as we find them, adapted to their location.

Our object in this article is doubtless apparent. We hope it will open the eyes of some to note the characteristics of trees. It is desirable for every person to have formed in his own mind an ideal of each kind of tree, so that when selecting sorts for his own grounds, or for others, he can choose them understandingly. Why should we not plant perfect specimens, while we are about it, instead of such ungainly things as will pain all discerning eyes? And is it not plainly the duty of nurserymen to give their ornamental trees, (evergreens in particular,) more room than they are wont to receive in the nursery rows to develop their base branches? For, if these branches are wanting or feeble when purchased, they will be quite sure to remain so always. More care in this respect would be to the advantage of buyer and seller.

The Best Elm Tree.

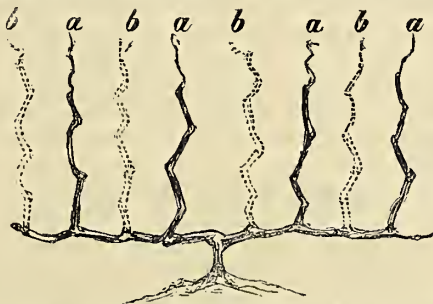
The inquiry is not unfrequently made, which is the best sort of elm tree? To which we generally reply, patriotically of course, the American White Elm. Its grandeur and dignity, combined with equal gracefulness, are nowhere surpassed. Yet other elms have their own excellences. The Scotch and English do not grow as lofty, nor sweep so proudly, but their foliage is darker, denser, and does not turn yellow and drop so early in the Autumn, as does the American. The Cornish (Irish) elm is an erect and dark leaved tree, worthy of a place in every good collection. The Dutch cork-barked elm is also one of the very best trees. It comes

out late in the Spring, but holds its leaves well up to cold weather. It is entirely hardy, and is probably the most rapid grower of all. It stands quite upright, making a globular, or plume-shaped head. It may be readily distinguished from most foreign species by its rough, corky bark, which, however, is less conspicuous than our own native cork-barked elm.

We have seen it stated that trees of the Dutch elm, standing in the streets of large towns, among other trees—lindens, ash and common elms—were entirely untouched by the caterpillar and other worms which infested other trees. If this exemption is a general rule, it will put the Dutchman high on the list of town trees.

Grape Training.

In these mid-summer months, the grape-vines must have some attention. There is danger on two sides. Some persons, seeing their frames covered with an almost impervious mass of foliage, concealing the clusters, will be apt to pull off the leaves to let in the sun and air upon the fruit. Beware of this! The leaves, not the fruit, want the sun light. If your vines were properly trimmed, last Fall, or early in the Spring, all you need do now, is to pinch out the laterals where too many start from a joint, and to pinch off the fruit bearers at two or three buds beyond the fruit. Experience shows that the clusters are largest and also ripen best where the vines have an abundance of healthy foliage. Another danger lies in the neglect to prune at all in Summer. A mass of suckers is allowed to shoot up from the central part of the vine, overlying and smothering the fruit-bearing canes. Three or four shoots are suffered to grow from every point, when one or two are enough. The vigor of the vine should be concentrated into those canes which grow where they are wanted, not diffused and wasted in a wild, ungoverned



a, a, bearing wood of last year's growth—b, b, new wood of this year's growth.

growth of useless wood. The canes should be distributed equally over the trellis, tying them in as they grow, and nipping off the extremities when they have exceeded proper bounds.

Probably, it is the growing conviction of our vine-loving readers—it certainly is our own—that the *renewal mode* of training grapes is on the whole the best. Get two, strong, horizontal canes, full of sound, plump buds, bend the canes to the lower bar of the trellis and fasten it there by stout thongs, from this, upright shoots may be trained, which are to be renewed alternately from year to year. In this way, we get an abundance of new fruit-bearing wood every year. The vine, too, is more completely under control than in any other method. When the canes are tied to the trellis at random, and spur-pruned, the new shoots starting out on every side, overlap and crowd each other, and make a mass of unmanageable foliage. When the vines are trained on the renewal method, one sees every cane distinctly, he can rub out every shoot that is not wanted, training up only the fruit-

bearers of the present season and those intended for the same office the next year. In short, he keeps every cane easily *at home*. Every gardener who loves system and order and neatness, will strongly incline to the renewal method.

Manzanito.

In answer to our request on page 25, January No. Mrs. E. Bowman, of Siskyou Co., Cal., describes the Manzanito, as an evergreen shrub of 15 to 20 feet in height, very crooked and scrubby, much like the Ivy Laurel on the Alleghany mountains. Leaves broad and thick, smooth, dark red, or light brown bark, with a very handsome and fragrant bloom of small pink flowers. The fruit is of a dark color, the size of a pea, with a single pit like the cherry, and is used for food by the Indians. The wood is exceedingly hard and close grained, resembling box wood, the small shoots making fine canes, when they can be found sufficiently straight.

It is found upon the Southern slopes of the mountains, in a dry and sterile soil where nothing else grows but a scrubby pine. Mrs. B., has never seen it transplanted with success. She promises to send us seed in the Fall. We have no doubt they will flourish here, and add another to our list of desirable hardy evergreens.

You Must Have Strawberries—

Not an occasional half pint doled out by the teaspoonful, but plenty of them, great bowlfuls and panfuls, once or twice a day for a whole month at least—not little things of the size of peas that require so much time to pick them over, but great luscious ones, as large as hickory nuts and black walnuts, and larger too—not the chance growth of meadows and pastures, requiring hours of picking in the hot sun, and the trampling down of much grass, but nice plots of flourishing hills in the best part of the garden. You must have strawberries—not alone a few of you who dwell in the old settled portions of the East where other fruits abound, but all of you who live away on the new farms of the West, where few cultivated fruits are yet enjoyed, and can not be until the trees have had time to grow. You must have them—not a dozen years hence, when you have got your farm paid for, your buildings completed, and every thing else fixed up. You must have a good taste of them next year, and thenceforth all you can eat. They are good for the health. They are good for the temper; did anybody ever rise from a meal topped off with strawberries, or strawberries and cream, and feel like scolding? They are the *cheapest* luxury the farm or garden affords, and the *best*. Good strawberries can be grown for 64 cents a bushel (1 cent a pint!)

"But," says more than one, "we can't afford it this year; times are hard, and your cultivated varieties cost money."—Not much; a dozen or two plants of good kinds will cost but a few cents—not more than one or two cents each—and, thanks to the last Congress, the postage is now so low on plants and seeds, that those who can not obtain strawberry plants nearer home, can order them by mail from the other side of the Continent. If well put up in oiled silk, or in light wooden or tin cases, strawberry plants can go from here to Oregon in the mail bags, (for 2 cents per ounce, or 1 cent if under 1,500 miles), and if sent in the cool month of September, they will generally go safely. If subject to much heat on the passage, they may sometimes fail, but the chances are so greatly in favor of their

success, that it is worth the experiment. Order them only of reliable persons, who will take proper care in putting them up well. Dealers will generally pack two dozen plants of any such good kinds as are now abundant, and send them post-paid anywhere for a dollar, or even less if under 1,500 miles, and these will multiply to hundreds the next year.

It is now nearly time to look out for a supply of plants. When not to be carried far, it will do to begin to put out plants any time after the middle of August, or before, if the new runners have become well established. The sooner they can be got to growing this year, the larger and better will be the supply of fruit next season. If to go far, especially if by mail, it is best to wait for the cool weather of September, or even the first of October, before taking up the plants. We have obtained fruit the following season from plants set as late as November, but so late planting is not advisable.

Cultivate Strawberries in Hills.—Every successive year's experience and observation, convinces us that when grown for fruit, it is, as a rule, better to put out strawberry plants in hills, 15 to 20 inches apart, and pinch off the runners. If multiplication is desired, let the runners set, but take up the plants as fast as well rooted, and put them out in hills. They can then be kept hoed almost as easily as corn, and they will produce better fruit and more of it than if allowed to run in a tangled mass or thick mat.

Soil and Manure.—Strawberries will grow on any soil; but like every other plant, they will pay for manure, and flourish best on a moderately good loam. On good rich soil, little manure is needed; but on poor soil apply and dig in deeply a fair coating of well rotted manure. For a clay soil, nothing is better than to lighten it up with rotten manure, and a large supply of black earth (leaf mold) from the woods, or of decayed chips from the wood pile. If the soil be subject to standing water, it should be drained. This may be done by throwing it into high beds, or cutting deep paths between the beds or rows, with an outlet to carry off surplus water. A supply of water below 18 inches in depth, is rather favorable to the plants.

But too many specifications will intimidate the inexperienced reader, and though for extra crops of extra berries, a deep, thoroughly prepared soil is essential, we now desire to simply impress the fact that with a very trifling outlay of time and trouble, every garden may be supplied with a good bed of this most excellent fruit. They are grown about as easily as corn. We repeat: *Good strawberries can be readily grown for 64 cents a bushel, (1 cent a pint!)*

Winter Protection.—In localities where the soil is subject to much freezing and thawing, it is desirable to throw over the plots, at the beginning of winter, a coat of loose straw or leaves—not enough to smother the plants, or to prevent their being frozen, but merely to keep them from frequent alternate freezing and thawing. Leaves are not so good as straw, as the former mat down and smother the plants more. As good a plan as any, if not the best, is to spread loose straw all over the plants, in November or December, and in Spring simply move the covering from the tops of the plants, and let it lie on the ground around them, where it will smother weeds, keep the ground moist, prevent the soiling of the fruit by rains dashing up the earth, and by its gradual decay furnish manure.

What Kinds to Plant.—There are two hundred or more named varieties of strawberries, all of which are readily distinguished by some peculi-

arity of form, color, shape of leaf and stem, etc. Many of them are comparatively worthless; others have proved good generally, and are widely known; while a number of new sorts, which are doubtless of superior excellence, are not yet widely known, and are comparatively scarce and high priced. These last should be secured by the amateur, and those having facilities for testing and cultivating many kinds; but the great mass of farmers and villagers desire only a few well proved sorts for the garden plot, for home use. Were one of this class to send to us to procure for him, say 50 plants, we should forward about 20 of *Triomphe de Gand*; 12 of *Wilson's Albany*; 12 of *Hooker's Seedling*, and for the rest, one or two each of such newer extra sorts as we could best obtain. Such an assortment ought to be boxed and sent any where by mail, *post-paid*, for one dollar.

The *Triomphe de Gand* is a large, beautiful berry, of superior flavor, and so far as we can see and hear, the plant is a vigorous grower and prolific bearer. The *Wilson* is a splendid bearer, and the berries large and beautiful; but it is too sour for eating without plenty of sugar. *Hooker's Seedling* is also a fine fruit, and of excellent flavor. It is said to be not quite so hardy as some others, though it has maintained its ground well with us. It originated at Rochester, N. Y., and should not be tender in that latitude or further South. Both the *Triomphe de Gand* and the *Hooker* have suffered less here than the *Wilson*, from extreme cold and dry weather. For market purposes, where a large supply of handsome fruit is the chief object, the *Wilson* may be best; but for our eating we prefer either of the other two named.

[EXPLANATION.—The above came from the Editor in Chief, who is away "at home," for the time being, doubtless feasting on a bountiful supply of a dozen sorts of fine strawberries, with sugar and plenty of home-made cream to match, and under the inspiration of which he probably wrote the above earnest advice. At the same time we have the article below, from our worthy Associate Editor residing in Central New-York, who also speaks from long experience, we believe. As the subject is important this month, we print both articles, thus giving our readers the advice of two competent editors, who reside 200 miles apart, and who each write without the knowledge of the other, and of course without consultation.—*Office Associates.*]

A New Strawberry Patch.

As a matter of course, everybody who can, means to have a strawberry bed of his own. Even if he can buy his berries in market cheaper than he could raise them, who would not prefer nice, fresh fruit just plucked from his own vines, to the crushed half-fermented masses brought a long distance in baskets or boxes, or spooned out from tubs of questionable neatness, which are so often offered for sale at the corner grocery. They who eat only the latter article, know little of the rich flavor and delicious aroma of strawberries fresh from the vines.

This is a healthy fruit, the doctors tell us, when eaten in reasonable quantities—remembering the old rule: "gold in the morning, silver at noon, and lead at night." The doctors, when honest, tell us likewise, that strawberries "smothered in cream" are more fashionable and palatable than healthy, and they advise us to eat them fresh, and mixed with nothing but morning dew. Hear old Abercrombie: "This fruit is very nourishing, and may be safely eaten by gouty and rheumatic persons. Its sub-acid juice has a cooling quality, particularly acceptable in Summer. Physicians concur in placing it in their small catalogue of pleasant remedies. It dissolves the tartarous incrustations on the

teeth, and promotes perspiration. It gives relief in cases of stone, and Hoffman states that he has known consumptive people cured by them."

Thus fortified, let us go out and make our strawberry bed. Spring is, on some accounts, the best season for starting new beds. The plants are then springing into vigorous growth, the ground and the atmosphere are moist, and the heat of the sun is less intense than in mid-summer. But, on the other hand, if a bed can be well established in August, it is quite sure to furnish a fair crop the first season afterward.

Preparation of the Soil.—Opinions differ as to the kind of soil best suited to the strawberry. Some insist that there is no need of enriching or deepening it at all. Probably those who succeed under such management, have ground that is naturally deep and fertile. Where the soil is light and thin, heavy mulching or frequent watering should be resorted to. Where it is naturally strong and then is heavily manured with rank stable manure, the plants make a luxuriant growth of leaves, to the loss of fruit. After considerable observation and experience, we are satisfied that those gardeners who succeed best in the long run, do trench and enrich their soils. A favorite method is this: Suppose a bed is to be made, sixteen feet long and four and a half or five feet wide. Begin at one end, and uncover a piece of ground five feet square, removing the top soil in a wheel-barrow to the side of the further end of the bed. Now, wheel in a barrow load of old manure or compost, spread it over the lower spit and spade it in, mixing the same thoroughly. Then uncover another portion of the bed, five feet square, throwing the top soil back upon the ground already manured. Enrich this second lower spit like the first, and then cover it as before, so proceeding until the other end of the bed is reached, and the subsoil of the whole is manured. Cover the last five feet square, with the soil taken off from the bed at the beginning. The top layer will probably need a little enriching. Treat it with a compost of well-rotted manure, largely mixed with leaf-mold and ashes. If the soil is naturally stiff with clay, sand should be added. This having been well incorporated, rake the ground smooth, draw your garden line and shape the sides of the bed handsomely. Such a bed will last for several years.

Planting.—Those who cultivate on a large scale, will set their vines 2½ feet apart in rows, and cultivate the ground with horse and hoe. But for garden culture, sixteen inches apart is enough, and three rows in a bed, with alleys eighteen inches wide between the beds, for convenience in hoeing, weeding, and picking. Those who want to raise their fruit with the least possible pains, and who care less for the quality than the quantity, will allow their vines to run and cover the beds. They who care something for the neat and orderly look of their gardens, and who want large and handsome fruit, will keep their plants in hills, or at least in regular rows. The runners must, therefore, be clipped several times during the Summer. Of course, when plants are wanted for starting new beds, the runners must be allowed to increase.

In making new plantations at this season of the year, considerable care must be used. If possible, choose a cloudy or showery day for transplanting. If such weather does not turn up at the desired time, then follow the rule we have often given for setting out tomato and cabbage plants. Provide a bucket or two of tepid water, dig the holes with a trowel or spade, pouring into each half a pint of water. When it has

partly soaked away, put in the roots and cover them with fine soil, using the fingers to do it with. Before setting out, cut off a part of the larger leaves of each plant. As a general rule, the plants should be shaded for a day or two, and the ground mulched immediately with leaves.

Best Varieties.—We shall not assume to speak authoritatively on this point. The number of excellent sorts is now great, and those which succeed in one soil and climate and treatment, do but indifferently well under other circumstances. A few hints, however, may be given to aid in making selections. *Wilson's Albany Seedling* ranks very high, if not the highest, as a prolific bearer. Yet, it is rather acid, and when ripe, turns dingy soon after picking. With us, too, it frequently burns out in mid-summer. The *Hooker* is a beautiful, delicious berry, and prolific enough; but it is rather tender in winter. The *Boston Pine*, *Cushing*, and *Burr's New Pine*, are very sweet and palatable, requiring little or no sugar. *Hovey's Seedling* holds its ground well among the older varieties, and deservedly; it is large, hardy, a good bearer, and of pleasant flavor. *Triomphe de Gand* promises finely, at least for amateur cultivation. So do *Austin's Seedling* and others which we can not specify. For market gardeners, public sentiment hereabouts settles upon the following as the most profitable: *Wilson's Albany*, Iowa or Washington, Early Scarlet, Crimson Cone, Hovey and others. For amateurs, the list would include, *Triomphe de Gand*, *Hooker*, Marylandica, *Burr's New Pine*, *Vicomtesse Hericart de Thury*, *Wilson*, *Cushing* and others.

Nearly every sort of strawberry is benefited by a little protection in winter. Leaves make a good covering. Keep them from blowing off by laying over them a little fine brush. If leaves are not at hand, use tan-bark, or straw, or any coarse litter, the bulk of which should be removed in the spring.

Notes on Strawberries.

During the season, several varieties of Strawberries have been on exhibition at the Office of the *American Agriculturist*, upon which the following notes have been made:

Triomphe de Gand.—Specimens from J. Knox, Pittsburgh, Pa.: Beautiful berries, of large size—some measuring $5\frac{1}{2}$ inches in circumference; of deep red color, excellent flavor; No. 1 in every respect. They bore carriage sixteen hours by land express well, arriving in good order. Other fine samples of the same variety exhibited by W. F. Heins, New-York, showed this berry to be a prolific bearer. Mr. Heins also showed specimens of *Wilson's Improved*, *Chorlton's* and *Scott's Seedlings*—none of them, however, equaled the *Triomphe de Gand*.

Austin's Seedling.—A quantity of this fruit was forwarded by the Shakers from Watervliet, N. Y. The berries are very large—the largest specimen measured $5\frac{1}{2}$ inches in circumference, and weighed one ounce. They are of light color, not as firm, nor as high flavored as the *Triomphe de Gand*. The fruit is of moderately good flavor, however, and valuable for its prolificness, and size, though one of its chief excellences is its lateness, which brings it in after other kinds have disappeared.

Boyden's Mammoth.—From C. S. Pell, Esq., of the N. Y. Orphan Asylum. Size large, $4\frac{1}{2}$ inches in circumference, and of fine appearance.

Wilson's Albany.—Specimens received from several parties. This standard variety for mar-

ket is too well known to need description. If it had less acidity, it would be the most desirable sort cultivated.

How to Show, and How to View a Garden.

It is taken for granted here, that one has something worth showing, that his grounds, be they large or small, are his pride and joy, and that from day to day, and from year to year, he does whatever he can to improve them. It is assumed, also, that our exhibitor has more than one thing to show. Specialties are very well, in their way, but if a person has only a single thing to display, he will not always be able to please his visitors. He should, also, have more than one spot of ground to traverse. Where there is a succession and a variety of scenes, each object can be viewed more leisurely and enjoyably; the curiosity is kept awake, and the entertainment is indefinitely prolonged.

"At what hour of the day, sir, would you prefer to receive your visitors?" Not at mid-day; for then the light falls vertically, and the shadows of trees and shrubs are almost imperceptible. If, too, it is mid-summer, the heat of noon is so intense that the visitor sweats and puffs, and feels that he is pursuing enjoyment under difficulties. Half the poetry of a garden is lost by viewing it under a broiling sun. Come to see us in the morning, sir, when the dew is sparkling on tree and grass, when the birds are musical, and all nature is fresh and attractive. Or come at evening, when the shadows fall aslant the lawn, when the heat of day has subsided, and the cool air is filled with fragrance.

In showing a garden, it is not advisable to exhibit its finest parts first. Begin with its common and humble features, and pass slowly from these to the rare and striking. If the sun is shining, do not walk much toward it—thus keeping the bright light in your face, and destroying the effect of the garden—but keep the sun behind you, as much as possible.

To some visitors, you need say little or nothing in illustration of the garden, grounds, or adjacent scenery. They will detect almost everything at a glance, and will enjoy themselves to the full, only now and then plying you with questions, and exclaiming, "how beautiful! how beautiful!" Others will walk along more quietly by your side, confessing their ignorance of gardening, in its higher forms, but begging you to tell them as you go, the name of this and that, and the origin of the other, enjoying with a keen relish all the information you give them. But there are visitors of a different sort. They have just a smattering of knowledge about gardens, and are puffed up with self-conceit. While visiting your grounds, they continually remind you of *their own* superb establishment, of their English gardener, and of their other highly important concerns. . . . Just here, we recall a letter, received some time ago from an indignant subscriber, who had suffered from the attacks of such a visitor. He says:

"MR. EDITOR—I am a victim. You know I have been an amateur gardener, in a quiet way, for several years; that, as my means would allow, I have collected every novelty of tree or flower that could be procured; and that many sensible men and scholars have often come here to examine my treasures. But lately, I have been bored by Gustavus Adolphus Jones. He walks through my grounds with head erect, and talking about his new span of horses and the next election. If I call his attention to a rare

plant, he will say, 'Ah, yes, thrifty, and nearly as large as one I have,' when, the fact is, he knows nothing about it. And off he will stride through the garden, stupidly ignorant of the valuable things it contains. I have been collecting, for several years past, the rarest evergreens, and out of the whole number selecting and training the finest specimens. On calling his attention to them lately, he tossed his head, declaring his own *Balsam Firs* better than all the new-fangled trees in the world. And so he runs on, and so do others who come to see me. Not a few, however, do not seem to know or care much about gardens. I can bear these folks, but Gustavus Adolphus is my abhorrence. How can I get rid of him?"

Your afflicted friend, HORTICOLA.

Let Gustavus alone; don't try to improve him; the leopard won't change his spots. Possibly he might wince a little, if you should return his visits promptly, and treat the finery of his pretentious establishment, as he does your modest garden. As to the other, half-indifferent visitors, be patient. They know but little, and enjoy life only within a narrow range. The sight of such grounds as yours may open their eyes a little. Be patient, and when those elect few come to see you, who heartily love gardens, and can appreciate them, you will be largely overpaid. But no one should make a garden simply for the sake of having it admired. He should so love it for its own sake, and be forever content with the beauty and fragrance it affords him and his own family.

Perhaps we need add nothing more as to the best way of showing and viewing gardens. Only this would we say: When a gentleman goes to see another's grounds, *let him leave his own garden at home*. He should go to be instructed and entertained, to see and hear, not to criticise, and to remind his host of much better gardens elsewhere. Go in a receptive state of mind; learn and enjoy all you can; let your entertainer see that you are pleased, and when your visit is ended, thank your friend for the enjoyment he has afforded you.

Transplanting and Shading.

As a general thing, too much water is used in transplanting. A shower or *douche* bath of cold, or even lukewarm water, upon a cabbage or other plant, not only packs the soil and makes it bake, but it chills the plant by its evaporation, and puts back its growth. If the soil be damp, and a little care be taken to preserve the fibrous roots unbroken, water is seldom needed. If the ground be dry, a little lukewarm water should be poured into the hole made, and *dry* soil be filled in, leaving the surface dry and loose. With this precaution we have had excellent success in transplanting all kinds of plants in the driest weather at all hours of the day.

Most persons prefer evening for transplanting. In practice we find the morning nearly as well. Perhaps the plant is less exhausted of its juices in the morning, and on this account bears the change quite as well at that time.

It is well, and often necessary, to shield plants from a hot sun for a day or two after removal, especially if the roots are much disturbed, or if they are carried far. The most convenient and ready mode of doing this is, to break off full leaved small branches from trees or shrubbery, and stick one or more of them in the ground on the sun side of the plants to be protected. A few minutes labor will suffice to thus shield a large plot of cabbages or other plants.

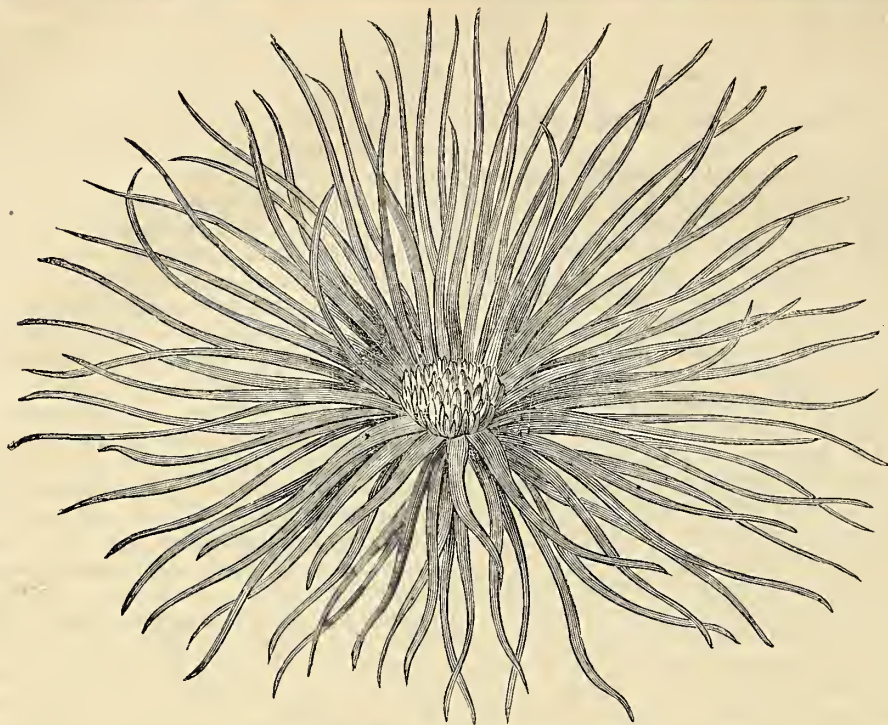


Fig. 1—THE STAR CHRYSANTHEMUM.

New Chrysanthemums.

The Chrysanthemum has long been in high repute among lovers of flowers. Its beautifully variegated forms and colors, and the ease with which it is cultivated, make it eminently a plant for the million. It is one of the finest of the hardy herbaceous perennials, and its bloom remaining late in the season, after most other flowers have disappeared, renders it particularly desirable. The blossoms are often seen covered with the first snows of Winter.

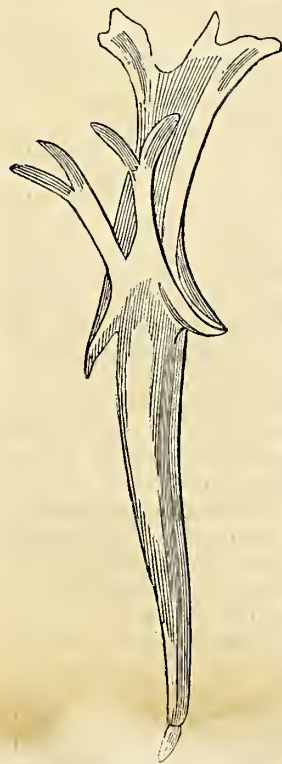


Fig. 2—COROLLA, magnified

the corollas divided into two irregular unequal lips. Fig. 2 represents a single corolla considerably magnified, to show the exact form. The

name of Dragon Chrysanthemum is proposed for this variety. No opportunity has been afforded to examine these novelties, as they have but recently been received in London, and we have no information as to their color or other properties. It may be expected, however, that

that the limit of fine varieties had been reached, but it proves to be otherwise, and floriculturists will be much interested in examining the two distinct forms, here shown, which were discovered in Japan and sent to London by Mr. Veitch. In Fig. 1 the peculiarity consists in the ligulate (strap like) corollas being drawn out into extremely narrow sharp terminations. This variety may very appropriately be called the Star Chrysanthemum.

Fig. 3 is of an entirely different type. The head is compact, incurved, with all

in addition to the attractions possessed by the flowers themselves, many new forms may be obtained by hybridizing with the common sorts. American Florists will not be long in procuring specimens of these foreigners, so that by another season we may be able to give fuller notes on their character and value.



Fig. 3—THE DRAGON CHRYSANTHEMUM.

own seeds from year to year. The young plants will need much thinning out every Spring—say to three or four inches apart.

If one is a little more fastidious, and must have only the finest named sorts, he can procure half a dozen from the nearest nursery at about a shilling apiece. If he wishes to preserve his plants from year to year, let him in the Fall cut back the tops to a few inches of the ground, pot the roots and keep the plants on a shelf or table in the sitting room. Or, take off cuttings in September, which will soon strike roots, and by another Spring become fine plants for bedding out.

The lady who shed those torrents of tears is supposed to have had a cataract in her eye.

Wintering Carnations.

It is harder to *Spring* them than to *Winter* them, out of doors. It is their exposure to freezing and thawing that makes such sad havoc with them. A good and easy method is to lay over them in the Fall a few tops of Phloxes, or leaves, then put on a sod or two loosely. In the

Spring, take off this covering a little at a time, reserving the last until hard frosts are over. The only *sure* way is to pot them in the Fall, and keep them in a pit or cellar. They will need watering only a few times.

The Petunia

A fine bed of petunias palpitating beneath our window, persuades us to speak a word or two to others in behalf of this family of plants. Its name was derived from the original Brazilian appellation, *Petun*. Two species of this plant were introduced, years ago, from South America—the old white sort from Brazil, in 1823; the purple from Buenos Ayres, in 1830. These were all well in their way, but too coarse to suit the taste of refined florists. So they undertook to see what would result from hybridization, and soon produced many pleasing varieties, all intermediate shades between these two, and others penciled and flaked and spotted. For several years, some of the reigning favorites were by name: *Hebe*, *Brauté parfait*, *Gem*, *Lady Alice Peel*, etc. Then quite a furor was excited by the appearance of a double petunia. But they were interesting chiefly as novelties; they did not flower freely, and at best were somewhat coarse and ragged in form. Within the last few years, greater improvements have been made. The new double sorts are better, (take *Garibaldi* as a specimen,) and the single sorts are marked with singular beauty. The best within our present knowledge, are: *Standard*, *Garibaldi*, *Inimitable* (and indeed it is inimitable,) *Forget-me-not*, *Conqueror*, *Novelty* and *Gem*.

One of the great excellences of the petunia is the ease with which it is cultivated. Prepare a bed of good garden soil in May, sow a paper of choice mixed seed (to be had of any reliable florist) and your petunia bed is made for several years. The seeds will start readily, giving plants a great variety of colors and shades, which will sow their

An Afternoon among the Flowers.

Summer Exhibition of Brooklyn Horticultural Society.

This Exhibition was held June 20th, just after the July *Agriculturist* had gone to press, and was confined to members of the Society, and invited guests. No prizes were offered, yet the display was fine, and speaks well for the enthusiasm which almost invariably attends the cultivation of flowers.

Roses were a chief feature of the Exhibition. Messrs. Dailedouze and Zeller had 53 varieties of choice Perpetual, Climbing, Tea, and Moss Roses. A. G. Burgess exhibited 45 kinds, among them a new seedling climber, very double and fragrant—not yet named. The same gentleman had 65 varieties of seedling Sweet Williams, comprising every shade, from the darkest maroon to the purest white, many of them mottled, fringed, and mixed in most beautiful combinations.—15 varieties of Monthly Carnations, very fine, and 57 varieties of Pansies were shown by Messrs. Dailedouze and Zeller.

A collection of Fuchsias shown by Mr. John Humphries was generally pronounced the finest ever exhibited in this region. They had been trained to the highest perfection of form, and elicited universal admiration. Dahlias, Delphiniums, Campanulas, Pæonias, Foxgloves, and numberless other Summer flowers in bouquets and frames were in profusion.

One feature gave great pleasure in examining the collection. Here were flowers for the million—not rare exotics which must be petted by professed gardeners, and nursed in hot-houses, but those which bloom beside the humblest cottage in the land, as freely as on the lawn of the millionaire. We wanted all those who have but small plots, in which a few dozen plants can be grown, to be there, that they might know how much beauty can be enjoyed by proper selection among easily grown flowers.

A plan adopted in some of the collections was particularly commendable, and should always be followed. Each specimen was plainly labeled, so that any one desiring to procure a desirable variety "when the war is over," and money is not so scarce, could make a note of it. *

Take Care of the Bulbs.

It is quite important that such bulbs as the hyacinth and tulip should be lifted in mid-summer of every year, or at least every other year, and kept dry until the Autumn, when they are to be replanted. They keep firmer and healthier from year to year, and truer to their colors, than when left continually in the ground. It is desirable to take them up, also, in order to remove the offsets which form around the parent plants. Lift them, dry them, and put away in paper bags, which should be plainly named.

Some persons, however, whose bulbs are set in conspicuous beds, feel impatient to get rid of the leaves of the plants immediately after the flowering time is past; and so they very soon cut them off, or barbarously pull them off. A great mistake this. The healthy maturity of the bulbs depends on the vigorous growth of the leaves, and we should strive to encourage, not check it. A few years of such cruel treatment will spoil the finest bulb. Give the plants all possible light, and keep the ground well stirred, until their maturity is completed. When the leaves turn yellow, the bulbs may be lifted and stored away. If necessity seem to require moving them, about the time the tips of the leaves fade, take up each plant with a ball of earth attached,

set it out again carefully in a reserved bed, until the foliage is ripened off completely.

Notes on Early Bush Beans.

(July 1st).—We planted seven kinds of beans for experiment, on April 27, and they have come into bloom as follows: Early China, June 17; Early Rachael or Quail-head, June 18; Dwarf Horticultural, June 20; Early Dun, June 20; Early Mohawk, June 21; Nonpareil, June 23; Hybrid Tampico, not yet in bloom, though the others have pods of various sizes upon them. As these were all planted alike, in rows side by side, the above results show very fairly the comparative value of the several kinds as respects early yielding. They are all very fair for cooking. According to our previous experiments, the Early China ranks among the best for the table; though there is not much choice among all the above except as to their early bearing. A small quantity of several of them planted at the same time will keep up a succession.

Early Peas.

The Daniel O'Rourke has been a favorite as a very early pea because it comes so quickly into bearing, and produces a fair crop. The excellent Champion of England, and other large richer sorts, though later, are preferable for the main crop of peas for cooking green. This year by way of experiment we planted Daniel O'Rourke, March 27th, and on April 1st, a new variety called the "Extra Early Princess Pea." June 1st, they were both just ready for picking. The Princess is a little sweeter than the O'Rourke, and is preferable on that account as well as being a trifle earlier; but the Princess grows taller, requires more bush and is a poorer bearer.

Trimming up Fruit Trees.

An ornamental tree should seldom be touched by saw or pruning knife. Road side trees, and those in pastures and public parks must be trimmed up ten or twelve feet from the ground; but lawn trees should generally spread their limbs on all sides in their native luxuriance.

And this for beauty. We believe, also, that for simple utility, fruit trees should have very little pruning of their lower limbs. Doubtless, one cause of the diseases to which such trees are subject, lies in the exposure of their trunks to the hot sun. The leaves need all the light they can get, but not so the limbs and trunk. Keep them cool and shaded, and the sap will flow up and down from root and branch uninjured. The injury from the sun's rays is probably as great in the Winter and early Spring, as in the Summer. After a severe frosty night in March, let the bright sun shine upon the bark of a pear or cherry tree, and it will be quite sure to burst it. In the northern region where we now write, we can count thousands of trees—apples, cherries, pears, horse-chestnuts, lindens, and others—with large cracks or rotten places on the south side of the trunk, caused, undoubtedly, in the way above indicated. Now, who will say that if the lower branches had been suffered to grow on those trees, they would not have prevented these injuries? There is a benefit to the soil, also, in the treatment we recommend. It is kept moist, cool, open, and in a favorable condition for the growth of roots. Grass and weeds make but little trouble. Mulching is seldom needed.

Low headed trees are seldom apt to blow over. The blossoms and fruit are less liable to

be blown off by high winds. If insects invade the branches, they can be more easily reached and exterminated. Grafting can be done with great facility. Fruit can be gathered with much ease, and that which falls to the ground gets little injury. The bark of such trees is less likely to be infested with vermin, because it is bright and smooth, and of course there is little or no need of scraping and washing the trunk and limbs. We presume, also, that such trees will be longer lived and more productive than those trimmed up.—The only objection we have heard is, that in such a fruit-garden or orchard, nothing else can be grown between the trees. Well, there ought not to be. A well managed fruit garden is the most productive part of a man's farm, and he ought to be satisfied with it.

THE HOUSEHOLD.

Save the Fruit—It will be Needed.

Those who have plenty of fruit, as well as those who have little, should save as much as possible this year, by drying or other modes of preserving. (See sundry directions last month, page 215.) The truth is, so far as we can gather, that the fruit crop of the whole country will be small. Cherries failed almost entirely, except in a few sheltered localities. Peaches abound in a few places, but generally there will be few or none. Apples will give but a moderate yield at best, and in a multitude of orchards there will not be an average of half a dozen apples to the tree. Dried apples are cheap just now, but there will be very few dried this year. We shall not be surprised, if they are worth two or three times as much as now, before a year from this date. Provident housewives will therefore do well to save all the blackberries and other small fruits they can, and when the apples begin to mature, dry all that will not bring a fair cash price. And here let us say, that much of the market value of dried apples, depends on the good peering, coring, and drying. Happening into a wholesale store the other day, we saw a purchaser take dried apples at \$4 per 100 lbs., instead of a lot offered for \$3, though the latter were every way preferable, except in not being pared clean. A little extra work in removing the skins, would have increased the saleable value at least one-third.

Save the Eyes Now—A Hint.

Probably every body now reads daily three times as much as he did a year ago. The excitement of the times keeps every one reading the news, or reading to find news. This is not to be deprecated, if it gets the mass into the way of reading more than formerly—provided the habit be turned to good account after the present excitement is over, that is, if light trashy literature does not come in to supply the place of news. But we began this item to offer a single hint about saving the eyesight, suggested by a call on a neighbor the other evening. Father, mother, and four children, were around a table reading fine type newspapers by a single central bright light. Every one of them had the paper spread on the table, with the face towards the light—the most uncomfortable, most unhealthy position that could be chosen, and the very worst one for the eyes. To say nothing of the compression of the chest and lungs, and the curving of the shoulders, the bright light fell

directly into the eyes, contracting the pupil unnaturally, and tending to produce weakness and inflammation by the effort required to read with only a few rays entering the eye. The very best position for reading, and the only one that should ever be adopted, is, to sit upright, *with the back or side to the lamp or window, and let the light fall over the shoulder upon the paper or book.* If there are windows on the opposite side of the room, change the position so that the wall or some dark object shall be in front of the eyes. The pupil of the eye then expands, and takes in a complete picture of the page or letters. A much smaller light will be required in the position recommended. Dr. Youman suggests the following experiment: "Sit with the face to the light, and turn down the flame until the printed letters become nearly invisible. Now interpose the hand or a book to cut off the rays coming directly to the eye, and the letters will become distinctly visible again." A strict adherence to the simple rule we have set forth, would restore half of the now weak eyes. (The other half would be mostly restored by avoiding a light too weak, and by keeping the system open, that is, free from costiveness, which deteriorates the blood and the system generally.) Book-keepers, watch-makers, mechanics, and at least all who work upon small objects, should so arrange their desks or work-benches that the light shall come in from the side upon their books, or the objects they are at work upon.

For the American Agriculturist.

"Playing in the Dirt"—Bathing.

"Oh let them play in the dirt, it's wholesome," we heard a mother say, when informed that her children were making mud pies by the roadside. Play is wholesome, particularly in the open air, but filth is not; yet many persons have strangely imbibed the notion that unwashed, neglected children thrive best. They say "look at the hardness of the little street vagabonds that throng our cities, and compare their toughness with the pale faces and puny limbs of the mothers' darlings that are never permitted to enjoy themselves for fear of soiling their clothing." But they take no account of the thousands of "nobody's children" that every year die of diseases contracted or aggravated by want of cleanliness. Those who survive, do so because of natural strength of constitution, which carries them safely through danger. As stated above, out door exposure is indispensable to high health, and it is want of this, not clean clothing, which injures the "mothers' darlings."

A coating of dust upon the skin interferes with its proper function. If this covering of the body be examined with a magnifier of high power, there will be discovered myriads of little orifices called pores which are outlets for a large part of the waste matter or dead particles of the body. If this poisonous matter be kept in the system, it will overload and derange other organs, and if it occur to any great extent, will cause active disease. A person varnished over completely, so as to stop all the pores, would die, after a time.

Few things tend to the promotion of sound health more than frequent ablution of the whole person. If laborers would take a morning bath twice or three times a week, and thus keep the skin well cleansed, they would be abundantly repaid in the comfort and vigor which the process would impart.

SALUS.

REMARKS.—We have nothing to say against the general idea of "Salus," for neatness. But

there has been not a little nonsense written and spoken concerning bathing, within a few years past. It is a question whether more lives have not been lost than saved by the morning bath in cold water. We will not deny that a person of vigorous constitution may break ice in the water, and take a brief wash or plunge in it, with no injurious effect, and even with benefit if a speedy reaction is unfailingly secured; but the fact is, few persons will secure the proper reaction unless under the immediate direction and oversight of a skillful physician. We have tried a daily, tri-weekly, semi-weekly, and then a weekly morning cold bath, and caught many a cold, notwithstanding all the skill and "science" we could bring to bear. This cold water morning bathing may be "meat" to some, but it is "death" to us, and to many others we wot of. We now luxuriate on a weekly or semi-weekly bath, in a comfortable room, with the chill taken off the water, and but little time occupied in the process, finishing off with a brisk rubbing, with a moderately coarse towel, not with a curry-comb, splint brush, or half-hatched flax towel.

A common mistake is, that those laboring out-doors, in dust and sweat, most need to bathe. Such persons sweat off the accumulations upon the skin, and though frequent bathing will conduce to their "good looks," to their comfort, and to lessening the labor of washing their garments, yet they need this operation much less, so far as health is concerned, than your caged gentlemen and ladies who seldom put forth effort enough to get up a free perspiration. The filthiest, most unhealthy skin, belongs to the neat body who dwells on Brussels carpet where not a particle of dust is permitted to rise, but who never exerts herself enough to 'raise a dust.'

Our lives are artificial, in part, and we can not in all respects follow the indications of nature; yet if constant bathing is *essential* to health, it must have been an oversight in the order of nature, that we were not born with gills and fins.

The most unhealthy skin would seem to be one from which the delicate oily secretions, naturally provided to lubricate the seven million tubes of the skin, is kept constantly removed by ablutions of soaps, alkalies, and water.—ED.

For the American Agriculturist.

Bags versus Boxes.

Boxes are unaccommodating, obstructive articles of furniture, unless one has more room where to bestow goods than falls to the lot of most American housekeepers. They require standing room, and as one can seldom have them just of the size needed to contain articles to be stored, much space is wasted by their use. Some things, as articles of clothing, bedding, etc., must have boxes or drawers for their proper keeping: but for all which will admit it, I prefer to use bags. These can be hung up anywhere, and they occupy no more room than is needed, and if necessary several can be placed upon the same nail. A large bag hung in the closet for the reception of soiled clothing, is much more convenient than the clothes-basket, which is always in the way. Some careless housekeepers I know, have neither, but appropriate a corner of the sleeping room for soiled linen, etc., until washing day—a most untidy practice. A bag or large pocket to hold shoes when not in use is a great convenience. A good way to make it, and others which are frequently used, is, to leave one side a few inches longer than the other, and bind it with wide tape. Make a loop in

the tape at each corner of the long side, for convenience in hanging; it is then always handy to get at the articles it contains. The comb and brush may have a small bag made in the same manner. It will look much more tidy than to deposit these articles upon the toilet table or mantel-piece. Patches, strings, waste paper, buttons, etc., also seeds, and various little articles used in culinary operations, can be most conveniently kept in the same manner. If the various receptacles are made of uniform style, they will have a neat, orderly appearance.

MARTHA.

About Eggs.

An egg of the average size weighs 1000 grains, or one-seventh of a pound. Three-fourths of its weight is water. One-seventh is albumen, a highly nutritious substance, resembling lean meat in its composition, and therefore adapted to produce strength of muscles when consumed as food. One-tenth of the weight of the egg is fat or oil, which is useful to supply carbon for respiration, and heating the body, and therefore especially valuable for eating in cold weather. The yolk contains some sulphur and phosphorous compounds, the latter affording materials for the structure of the bones. The shell is chiefly carbonate of lime—similar in composition to marble or lime-stone. The shell is porous, and admits air for the chicken before it breaks out. Of the entire egg the shell weighs about one-tenth; the yolk, three-tenths; the white or transparent portion, six-tenths. The composition of an egg is quite similar to that of a piece of good fat beef steak with the bulk of the loose fat, or tallow, trimmed off; eggs are therefore nutritious food. Seven eggs, weighing a pound, are nearly as valuable for food as a pound of good meat, and they generally cost much less. During the past few months seven eggs have cost only 7 cents at retail, in our market, while a pound of sirloin beef has cost 14 to 16 cents, and a good steak from the round, 12 to 14 cents per pound—being two to one in favor of eggs.

In cooking eggs, most families boil or fry them hard. This renders them bad to digest, unless they are masticated very fine, and this is seldom done in rapid eating. They are every way better if soft-boiled, and after a little practice in eating them thus, a hard-boiled egg is comparatively dry and tasteless. An egg placed in boiling water just three minutes, or if a large one 3½ to 3¾ minutes, is abundantly cooked. After removing from the water, the eggs need to stand a few minutes to heat through to the center. After becoming a little accustomed to them, eaten with the addition of a little salt and pepper, or other condiment, eggs thus cooked are palatable as butter, instead of requiring to be covered with butter.

PRESERVING EGGS.—As above stated, the shells are porous, and the water of the egg is constantly evaporating, and air entering to take its place. After a time, decay commences. It will readily be seen that stopping the pores of the shell will tend to preserve the contents in their natural state. This may be done by dipping them quickly in melted tallow, or coating them with sweet oil, or a solution of gum, or varnish. Milk of lime, that is, fresh slaked lime mixed with water to a milky consistence, fills up the pores pretty well. Thus coated, they only need to be placed in a cool place, of somewhat uniform temperature. A packing of chaff, bran, salt, ashes, charcoal, dry saw-dust, or any simi-

lar porous material, preserves the uniformity of temperature by means of the non-conducting air confined in the spaces. Perhaps there is no simpler way of keeping eggs than to dip them in melted tallow, pack them in dry chaff, and store them in a cool dry cellar.

Never Cook in Copper.

People do a thousand bad things, and because they continue to exist—not to live in the full sense of the word—they keep on in the bad practices, and laugh at “notional” persons who are careful about little things. The housewife who has a fine copper or brass kettle, which is so handy to use in all sorts of cooking operations, will probably throw down the *Agriculturist* when she reads this item, with the remark that “it’s all book nonsense.” But we wish to tell her, nevertheless, that every item of sauce or food she cooks in a copper or brass vessel is poisoned. The amount of poison in each case may be small, and a person with a vigorous constitution may eat out of brass or copper for many years without dying; but from what we know of the chemical nature and affinities of copper, we would just as soon take a small dose of arsenic as to eat fruit, or other food, cooked in a copper or brass kettle, unless the inner surface be kept perfectly coated with tin.—*Agriculturist*.

Notes on Currant Jelly.

A “Jersey Housekeeper” furnishes to the *American Agriculturist* some notes on Currant Jelly, from which the following are extracted: The common rule of “a pound of sugar to a pint of juice,” may suit many persons, but the large majority of people will be better pleased with a sweeter preparation, say 5½ lbs. of sugar to 5 pints juice, or even 6 lbs. if the currants are very sour, like the cherry variety.—It is customary to boil down the juice and sugar together. A better plan is to first boil the juice separately for 10 to 15 minutes, and then add the sugar and boil 5 minutes or more as may be needed, skimming as necessary.—Currants produce more and better jelly if used as soon as fully red ripe. They can be used a week or two later if necessary, but they then produce a poorer jelly, and require more boiling—sometimes, when much over-ripe they will not form a jelly, without half an hour or more of boiling, sometimes not at all.—Currants picked from the tops and outside of bushes, where they have been exposed to the direct rays of the sun, make a finer jelly than those from the inside and lower shaded portions of the bushes. They should be picked dry, as dew or rain on the leaves materially injures the fruit for jelly-making.—The addition of a pint of raspberry juice to 8 or 10 pints of currant juice, gives a delicious flavor to the jelly.—A porcelain lined vessel is preferable for boiling all kinds of sweetmeats.—All jellies keep better if put into tumblers, or very small molds, jars, or bowls. For covers, use firm strong paper well pasted down at the edges. Slitting the outer edge of the paper facilitates the turning down and pasting, but no slits should extend in to the top of the vessel, or air will be admitted.

Blackberry Wine.

Several recipes for making this have been published in the *Agriculturist*, nearly all of which we have tried. The following has proved best in our own experience. Take the ripe berries, picking out decayed ones, and press out the juice through a close linen cloth. To each quart of juice add

one quart of water in which is dissolved two pounds of good white sugar—second quality, or “B. sugar” answers well. Put into glass bottles or stone-ware jugs, and cover the mouth with millinet or any open woven cloth to admit air and keep out insects. Set in the cellar for six months, more or less, and then pour off carefully from the lees into clean bottles, and cork up for use as wanted. For large quantities, clean oaken barrels may be used, covering the bung with millinet. It is not essential to rack off the wine until wanted for use or for sale.

Currant Wine.

A judicious housekeeper, whose Currant Wine we have tried and approved, furnishes her recipe to the *American Agriculturist* as follows: Let the currants get fully ripe before picking, but carefully sort out all decaying berries; the stems need not be removed. Warm them a little, and press out the juice through close flannel. To a three gallon jug add three quarts of the juice, and 9 lbs. of white sugar, and fill up with pure water. Pulverize a bit of alum, the size of a hickory nut, and add it to the jug, shaking it. Tie lace or millinet over the mouth, and leave in a cool cellar until late in Autumn, or five or six months; then rack (or pour) off clear, and cork tightly in bottles.

To Preserve Currants.

Contributed to the *American Agriculturist* by R. H. Smith, Suffolk Co., N. Y. To 7 lbs. of ripe currants add 7 lbs. of clean sugar, and 2 lbs. of raisins. Put all in the kettle together, and let them boil slowly until the fruit is done. Then dip out and cook the syrup two or three hours. The raisins are a great improvement.

Pickling Ripe Cucumbers—Good.

At our request, Mrs. S. Gooding, Niagara Co., N. Y., furnishes for the *Agriculturist* the following directions for a preparation of cucumbers, which is pronounced extra good by several of our acquaintances who have tried them: Take ripe cucumbers, when yellow but not soft; pare and remove seeds; cut lengthwise into quarters, or if they are very large, cut into pieces smaller than quarters; put into a kettle with just water enough to cover them, adding a handful of salt, or enough to make a weak brine; boil until cooked through, but not soft, (a little alum added will harden the pickles); take out and drain well from the brine; place them in stoneware or glass jars, and cover with a syrup made by boiling a quart of vinegar with four pounds of sugar, skimming it clear. Spice by boiling in the syrup, cloves and cinnamon tied in a bag. Cover the jars and set aside in a cool place, and they will keep well through the year.

Catchup—Cucumber Catchup.

Judging from the number of recipes in vogue, we should say that “catchup” could be made of any vegetable that grows, as well as sundry other things that are not ranked as vegetables—the general formula being: Plenty of all sorts of strong spices, and a small quantity of anything else you choose, from a tomato to a green walnut, or boiled bass-wood chips. (Green walnuts, or butternuts, by the way, do make good catchup as well as good pickles.) An excellent housekeeper of our acquaintance furnishes for the *Agriculturist* the latest recipe for catchup, said to be very good; to wit: Take green cucumbers; pare and chop very fine; sprinkle on salt, and let them stand an hour or so; put into a strong cloth, and press out all the liquid possible; put the fine pieces remaining into bottles, and add vinegar, black pepper, and salt.

Cork tightly and set aside for use. Small bottles are preferable, so that only a small quantity need be opened at a time, as it molds after much exposure to the air.

Strawberry Short Cake—First Rate.

Every day we have taken dinner in the City during the past strawberry season, we have called for an article named on the bill of fare at the Home Dining Saloon, as “Strawberry Short Cake,” and at our request the proprietor has furnished to the *American Agriculturist* the following directions, which our house-keeping readers will do well to keep on hand for next year, when we hope every one of them will have plenty of good berries of their own. (See Strawberry articles on pages 241-2): Dissolve 1 teaspoonful of soda in 1 pint of sweet milk. Take nearly flour enough for a thin dough, thoroughly mix it with 2 teaspoonfuls of cream of tartar, and then rub in ½ teacupful of sugar, nearly a teacupful of butter, with a little salt. Mix the whole, adding flour enough to make it as thick as tea biscuit. Bake, split into thin slices, and butter the pieces. Have a good lot of strawberries previously well sugared, and put them between the pieces and on top, dipping over the whole a little of the juice of the berries. Let it stand in a warm place until the berries are partially cooked, and eat with sugar sprinkled over, or better, with sugar and cream if you have it. This, as we have it at home and at the aforesaid dining saloon, is good enough for any queen, and better than her fabled “bread and honey.”

N. B. Raspberries answer just about as well as strawberries for this short cake.

Nice Pop Overs.

Mrs. S. B. P., of Queens Co., N. Y., furnishes to the *American Agriculturist* a recipe for pop overs, which having been tried and fully approved in the editor’s family, is here “passed along” for the benefit of others: Stir the yolks of two eggs with two teacupfuls of milk, two cups of flour, and a little salt. Beat the whites of the two eggs to a froth, and then add it to the batter. Dip 1½ to 2 tablespoonfuls of the batter into each patty pan, and bake 20 minutes in an oven about hot enough for bread.

Delicate or Silver Cake—Cheap and Good.

The following is to be credited to the *American Agriculturist*, which is “responsible”—no matter now, who furnished the recipe: Take 2 teacupfuls of white sugar; ¼ cup of butter; 1 cup of sweet milk; 4 cups of flour; the whites of 4 eggs beaten to a stiff froth; 1 teaspoonful of soda and 2 of cream of tartar; and flavor with vanilla, nutmeg, or lemon, or as you like. First rub the butter and sugar to a cream, and then add the other ingredients. Bake in a quick oven.

Rooster Cake.

Contributed to the *American Agriculturist* by “Aunt Molly.”—(This is a queer name, nevertheless the cake may be good.—Ed.)—2 cups sugar, 1 cup butter, 4 eggs, 1 teaspoonful saleratus, and a little dried fruit. Drop it in a dripping pan, and bake 15 minutes in a hot oven.

To Keep Old Cheese.

Contributed to the *American Agriculturist* by “An Old Cheesemaker.” When brought from their winter quarters in the cellar, wash and dry them; then with a paste of rye or wheat flour, cover them entirely with clean wrapping paper. They will need no further attention except to turn them occasionally on the shelves, to keep them from molding.



Fig. 10.—A "ZOUAVE."

The Editor with his Young Readers.

Explanation of War Terms.—No. II.

In the July number of the *Agriculturist*, descriptions were given of some of the heavier implements of war, with which attacks are made upon an enemy at a distance. This month we have illustrated some of the arms and equipments carried by the soldier, with a few other matters which from their novelty attract attention. Fig. 10, represents an armed Zouave, a new style of soldier in this country. The name is of French origin. Zouave soldiers were originally found in Algeria, in Africa. They were chiefly Arabs and Moors. The French conquered Algeria, and the Emperor found the Zouaves such desperate fighting men,



Fig. 11.

and their dress and drill so admirably adapted for service, that he took them into his army, and also had regiments of his own French soldiers equipped in the same manner, and instructed in their tactics. The late Col. Ellsworth, of Chicago, having witnessed the efficiency of these soldiers in the French army, introduced the style into this country. He formed and instructed a company of Zouaves, and then visited several parts of the United States and gave exhibitions of their proficiency. This led to the forming of new companies; and there are now thousands of these men engaged in the war. The dress of the Zouave is simple but admirable. It consists of a loose flannel jacket looped together at the neck, and wide loose trousers, also of flannel, gathered in a band above the ankle. Underneath there is a colored flannel shirt. Portions of the dress are trimmed with colored braid, according to the fancy of the various regiments. The feet are encased in a peculiar kind of shoe, of light color, intended expressly for marching, and some regiments have leather leggins extending from the shoe to the bottom of the trousers. The head is covered with a flannel cap, often without any front piece, and with a large tassel hanging behind. The whole dress is light and loose, and enables the wearer to move freely in any direction.

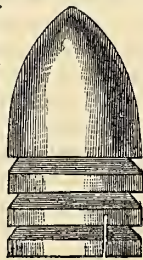


Fig. 12.

The drill of the Zouaves requires greater activity than the ordinary evolutions of soldiers. They are taught to load and fire in almost every position, kneeling, lying down, or on the full run. They are also trained in gymnastic exercises, so that a well disciplined company will mount a wall without ladders, by climbing upon each others shoulders. Their drill with the bayonet makes them almost invulnerable against the attacks of cavalry.

The Zouaves are generally armed with the *Minie* rifle. This is like the common rifle, except in the

construction of the ball. The ordinary musket, you remember, is smooth-bored and is loaded with a cartridge (Fig. 11,) consisting of a small paper tube filled with powder, and having a round ball fastened to the end. In loading, the soldier bites off a bit of the paper, pours the powder into the barrel, and then rams down the ball and empty cartridge paper, which serves as wadding. The rifle ball was formerly made round like the musket ball, and by forcing it down the grooved barrel, its sides were fitted into the grooves of the rifle. The *Minie* ball is shown in Fig. 12. It is conical or pointed in front, and the back part is cast with grooves or rings. The back end is hollow, and filled with powder. It slips into the rifle easily, but when the piece is fired the powder expands the lead of the hollow part, and forces it into the grooves of the barrel. This causes it to rotate in its passage outward, as was described in the July *Agriculturist*. The ball was named *Minie*, from its French inventor, Captain *Minie*.—*Sharp's Rifle*, Fig. 13, is so constructed that it is loaded at the breech. The curved metal plate on the under side of the stock, called the guard, turns downward and opens a chamber in the rear of the barrel, into which the charge is slipped. This rifle can be loaded very rapidly; it is much used by troops on horseback or cavalry.



Fig. 13.



The bayonet, Fig. 14, is a sharp pointed steel instrument made to fit on the end of a musket. It is named from Bayonne in France, where it was first made. It is a terrible instrument in the hands of active men at close quarters. When not in use, it is usually carried in a scabbard in the belt of the soldier.—*The Saber Bayonet*, Fig. 15, is an improvement on the old style. It may be used alone as a sword, or fastened to the gun by means of the ring on the side, and the notch in the handle.—*The Revolver*, of Fig. 14 which there are many different sorts, is too well known to need particular description. It is a pistol, made of various sizes, with from five to seven barrels, which revolve or turn at each cocking of the lock, so as to bring a loaded barrel under the hammer, until all are fired. The Colt's Revolver and several others, have but one barrel with spiral grooves, like a rifle. The charges are put into tubes in a cylinder at the breech, which is turned around to bring the successive charges against the barrel. This makes the pistol lighter than if there were half a dozen barrels of full length.

The Bowie Knife, Fig. 16, is a murderous weapon, carried in the belt, to be used in close hand to hand conflict. There is seldom need of it, as the bayonet and the revolver usually answer all purposes. Hunters find this a convenient weapon for slaughtering wounded animals, and removing their skins.—*The Cavalry Sword*, Fig. 17, is carried by soldiers on horseback, in addition to the short guns (carbines) with which they are usually armed. They use their swords in making a charge, that is riding at full gallop among the enemy, and hacking them to pieces.

The Broadsword, Fig. 18, is carried by officers of a regiment.—Besides the weapons which the soldier carries, he is furnished with a knapsack, or square leather case strapped to his shoulders, as shown in Fig. 10. In this are carried extra articles of clothing, and a tin plate, or pan, and knife and fork. He has also attached to his belt, at the right hip, a small leather box called the *cartridge box*, for holding ammunition. The *canteen*, also fastened to the belt is a small flat bottle of tin, india rubber, etc., for carrying water. The blanket which serves as a protec-

tion from rain and cold, and for bed clothing at night, is packed in a small roll, strapped on top of the knapsack. The various articles carried by a fully equipped foot soldier, weigh from forty to fifty five pounds.—*The Havelock* is a white linen covering for the cap, with a cape attached, for protecting the head and shoulders from the sun. It was invented by Gen. Havelock, in India, and is an admirable contrivance for preventing sun stroke. Figs. 20 and 21, represent two different forms of this article. They would be excellent for farmers to use in the field in hot weather.

Organization of an Army.

When a large number of men are assembled for any purpose, some kind of order and discipline must be maintained; otherwise there will be constant confusion, and very little can be effected. The greater the number of soldiers, the more they would be in each other's way, and the more easily they could be routed, if each man were not instructed to occupy a particular place, and to move in unison with his comrades. A single company of one hundred disciplined troops, will easily put to flight a thousand persons assembled in a mob.

In order to proper discipline, all armies are divided into small numbers of men, each under command of its proper officer. The unit or lowest branch of an army is called a *Company*. It contains from fifty to a hundred men, including officers. Most companies in war have the latter number.



Fig. 17.

The officers of a company are the Captain, and two lieutenants, who are called commissioned officers, and from four to six sergeants, and the same number of corporals, called non-commissioned officers. The company formed on the field, is divided into two equal parts called *platoons*, and each platoon is subdivided into two sections. Each platoon is commanded by a lieutenant; each section by a sergeant, assisted by a corporal. The captain commands the whole company; his orders being repeated and carried out by the inferior officers. The first Sergeant is also called the *Orderly Sergeant*. He carries the books of the company, and calls the roll night and morning.

If the Captain falls in battle, the first Lieutenant takes his place. Two or more companies up to the number of five, or half a regiment, form a *Battalion*. This name is sometimes given also to a whole regiment. A *regiment* is made up of ten companies, and thus numbers a thousand men, when full. The officers of a regiment, besides the usual company officers, are the *Colonel*, or first in command, next to him a Lieutenant Colonel, then 2 Majors, 1 adjutant, 1 Quartermaster, 1 Commissary. The *Quartermaster's* duty is to provide lodging places or quarters, and to furnish clothing for the regiment. The *Commissary* has charge of the provision department. He purchases the food, and gives out the *rations* or portions to which each man is entitled. The other regimental officers, named above, repeat to the men and carry into effect the orders of the Colonel. A *Brigade* is composed of two or more regiments, to which are usually added one or two companies of *cavalry*, (soldiers on horseback,) and a number of cannon with their artillerymen or men to work them. The *Brigade* is commanded by a *Brigadier General*, who is assisted in executing his orders by several officers called the *Staff*, who are taken from the regi-



Fig. 16.

Fig. 18.



Fig. 19—A SCOUT.

mental officers. They are also called *Aides-de-Camp*. When two or more *Brigades* are united, they form a *Division*, which is commanded by a *Major General*, assisted by his *Aides-de-Camp*. Additional companies of cavalry and artillery are generally attached to a *Division*. The *Major General* is the highest officer under the *Commander in Chief*. In this country the President is *Commander in Chief* of all the land and naval forces. One of the *Major Generals* is, under the President, the acting *Commander in Chief* of all the forces. General Winfield Scott now holds that position, and in consideration of his long, efficient services, Congress conferred upon him the honorary title of *Lieutenant General*.

Miscellaneous War Terms Explained.

Flank.—The right or left of a body of troops. *Flankers* are numbers of men stationed on the sides of an army or regiment, to guard against an attack. *Wings*.—The right and left portions of an army. *Skirmishers* are bodies of men sent out in advance to engage the attention of an enemy. *Zouaves* or other riflemen are usually assigned for this duty. *Scout*.—A soldier sent out to gather information of the position of the enemy. A *Spy* usually goes in disguise, and if possible enters the opposite camp to learn about their strength, movements, etc. *Reconnoissance*.—The survey and examination of a portion of country, with a view to military operations. *Pioneers*.—Soldiers equipped with axes, saws, etc., for clearing the way before an army, and to entrench or build defences. *Sappers and Miners*.—Soldiers whose duty is to make ditches, and open subterranean passages for blowing up fortifications with gunpowder. *Sentinel*.—A soldier placed to watch for the safety of the camp, prevent all intrusion, and give notice of an approaching enemy. *Picket*.—Several soldiers placed together on guard at the outposts or furthest limits of a camp. *Vidette*.—Sentinels on horseback, stationed at the outposts. *Challenge*.—The call of a sentinel, "Who goes there?" addressed to a person approaching. *Countersign*.—A secret word, by repeating which to the sentinel, a person is permitted to pass the lines of an encampment. The countersign is changed daily. *Patrol*.—A small party under a non-commissioned officer, which goes through or around an encampment at night, to keep order. *Ambuscade*.—A body of troops in concealment for the purpose of surprising an approaching enemy. The hiding place is called an *ambush*. *Masked Battery*.—One or more pieces of cannon hid or masked from observation by brush, trees, or other means. *Bivouac*.—To pass the night without shelter, except from trees, or temporary huts of branches, etc. *Billetting*.—The temporary occupation of the houses of a town by soldiers. *Garrison*.—A for-

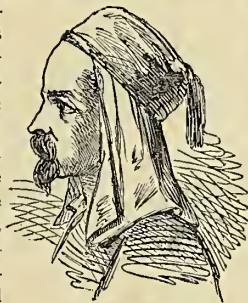


Fig. 20.



Fig. 21.

tified place in which troops are quartered; the name is also applied to the troops themselves. *Furlough*.—Leave of absence for a limited time. *Parole*.—The promise or word of honor, given by a prisoner to his captor. *Mutiny*.—Disobedient or refractory conduct among troops, with resistance to officers. *Enlist*.—To enter the service of the army. *Recruit*.—A newly enlisted soldier. *Amnesty*.—Pardon and release from all offences connected with war. *Armistice*.—Temporary suspension of hostilities. *Fortifications*.—Works of various kinds, as embankments of masonry, earth, etc., for defence of troops. *Fort*.—Any military work designed to strengthen a point against every attack. Important and finished works of this kind are called *Fortresses*. Fort Monroe, at the mouth of the Chesapeake Bay, is the only fort in this country so completely fitted up with all kinds of defences as to be called a *Fortress*. *Abatis*, (pronounced *Ab-bat-tee*).—Trees thrown down together with their branches outward, to obstruct a passage. *Approaches*.—The lines of entrenchment, ditches, etc., by which besiegers protect themselves in approaching a fortified place. The principal trenches are called *parallels*. *Banquette*.—A small bank of earth on which soldiers stand to fire over the top of the wall which shelters them when loading. *Barbette Guns*, are those which are fired from the top of the wall of a fortification; they are partly protected in front, but not overhead like guns in the casemate. *Barricade*.—To obstruct a street or passage with any materials at hand, as wagons, stones, rails, trees, etc. *Bastion*.—That portion of a fortification which is advanced beyond the general line of the work. The part of the wall between two bastions is called a *curtain*. The bastions are so arranged at the corners or angles of forts, that grape shot, etc., can be fired from them along the outer face of the wall or curtains, and thus destroy an enemy attempting to scale (go over) the walls with ladders. The bastions are usually higher than the walls, so that they can not themselves be scaled. *Battery*.—Any number of cannon taken together, numbering from two upward to a dozen, twenty or more. This is also called a *park* of artillery. *Caisson*.—The ammunition carriage accompanying a field piece. *Casemates*.—Bomb-proof chambers in fortifications from which heavy guns are fired through openings called *embrasures*. *Arsenal*.—A public storehouse for cannons, guns, and other implements of war. *Barracks*.—Buildings provided by the Government for lodging the troops. There are other matters pertaining to war, ships, etc., which we may explain at another time.

An Eventful Period—Making History.

This is indeed an important ERA. The American people are now making a *history* that will be read with interest, not only when the boys and girls of to-day shall have grown gray with age, but for centuries to come. None of the events recorded in the history of Greece and Rome, that are still read with so much interest, were of such world-wide importance, as what is now transpiring in this year of Grace 1861. Our young readers, and even grown people, who pore over the details of the War of the Revolution, and that of 1812, can hardly realize that a greater strife, and if possible a more important one, is now in progress in our very midst. The result is to determine, for the benefit of the whole world, whether or not a free government like ours, is a strong one, capable of endurance, and adapted to the wants of the human family. This struggle, its causes, its details, its results, will be constantly written about, talked about, and referred to in the highest legislative councils of this and other countries, longer than the youngest child that reads these pages will live. Let all the youth, then, read about and study the transpiring events of the day, and let them be discussed at the fire-side, at the table, and in the school room.

How to Learn Geography.

In these days of newspapers, when accounts are given of what is going on in every part of the world, and particularly when so much of interest is transpiring in our own land, it is very important to

have a good idea of the situations of the countries and towns, otherwise there will be less interest in what is read. The best way to acquire this knowledge is to always have a map at hand when reading an account in which places are mentioned, and to look out each one as soon as you come to it in reading. In this way, you will become more interested in the subject, and the geographical knowledge thus obtained, will be better remembered than by merely learning lessons from a work on geography in which little interest is felt.

Learn to Punctuate.

We receive hundreds of letters from our young friends of the *Agriculturist* family every year, each one of which is as pleasant as a flower fresh from the garden: they are fragrant with good wishes, and sometimes wit sparkles in them like dew drops on a rose. Usually the writing is plain if not always handsome, and the spelling good. But few have been taught to put the commas, semi-colons, periods, etc., in their right places. "Oh, I thought that was the printer's business," says some one. That's a mistake. The printer's rule is "Follow the copy, even if it flies out of the window;" that is, make the types say just what the writing says. The *Editor* reads what is to be printed, and corrects mistakes in spelling and punctuation, and a funny job of it he has sometimes. He has it to do, not because it is *his business*, but because other people neglect *their business*. Don't imagine we're scolding any body—not at all—we are only correcting a mistaken notion about punctuation; and we write thus, not for our own sake, but for yours.

You write many letters, etc., which are not intended for printing. Whose work is it to punctuate these? The points are necessary to show what is meant. The *Editor* is often puzzled to make out the sense of a letter, merely because a comma is omitted or misplaced. Take this sentence, for instance: "He wore a cap on his feet, gaiter boots on his hands, kid gloves astride his nose, curious spectacles!" Curious spectacles indeed! But place commas after *cap*, *boots*, and *gloves*, and then all comes right. We often receive letters on business and other matters, which it is impossible to understand, simply for the want of a comma, or two.

Perhaps your teachers have never instructed you in the art of punctuation. Ask them to please teach you how to use points properly, or if this can not be done, get some book which gives directions, and make it a rule never to write any thing, not even your name, without punctuating. Most persons, we believe, can punctuate so as to make the sense clear, without the aid of books or rules.

New Problems.

No. 18.—*Illustrated Rebus*, suited to the times.



No. 19.—*Military Letter in Cypher*.—This is more difficult than the one given in July.

bk jdukhz yu tihau wohrusj nt ttj bkjq fz kawzmkxz.

No. 20.—*Scriptural Enigma*, communicated to the *American Agriculturist* by an anonymous correspondent. It was written in good rhyme, but being difficult to translate into German, we have reduced it to prose, when it reads as follows:

A king who fell through a lattice; the prophet who anointed Saul; a leader who delivered the Jews from a Mesopotamian king; a Roman Governor to whom the Jews brought a prisoner; a City where an Apostle left his cloak; a man who spoke before a king the words told him by his brother; one who was burned while offering strange fire; a city destroyed by fire; what an Egyptian ruler sent to his father; a King of Moab who was murdered; a comely maiden who gleaned in the field; the num-

ber of lepers healed by Christ at one time; a man smitten for touching the ark; a girl who heard Peter knock; a man who lived with beasts; one who could not find repentance; a doubter; one who lived in a college at Jerusalem; a blind prophetess; what the Sadducees and Pharisees were warned from; a tent-maker; what Jeroboam said the king had made grievous; the place where the forerunner announced Christ; a young woman who came to draw water from a well; a man whose hair caused his death; one whose mother and grandmother taught him the scriptures; a man who sold a cave.

The first letter of each of the names and words indicated above, will give a Scripture proverb. What is the proverb, and what are the names?

Answers to Problems in July No.

No. 15.—*Interest and Discount Question.* (See page 218.)—Seven answers have been received, as follows: \$3641.80; \$2849. (by two readers); \$3657.1-7th by two readers); \$3597.59, and \$3646.09. These can not all be right. We shall leave it another month for our young readers to work at.

No. 16.—*Arithmetical Question.*—(July No., page 218.)—Gold is weighed by Troy weight, in which 5760 grains equal a pound; lead is weighed by Avoirdupois weight, in which 7000 grains equal a pound. Hence it requires $\frac{5760}{7000}$ of 16 ounces of lead to equal the weight of a pound of gold, or 13. $\frac{29}{175}$ ounces.

No. 17.—Military letter written in cypher. The key to the translation is as follows: each letter of the words, is replaced by another found three letters distant from it in the alphabet. Thus: S is represented by V; E is represented by H; etc.—Vhgg zlwkrxw ghodb wkuhh uhjlpqhvw ri lqidq-wub wr dohadqguld zlwk udwlrqv iru wkuhh gdbv. Answer: Send without delay, three regiments of infantry to Alexandria, with rations for three days.

Correct answers received, and not previously acknowledged, from;

E. E. and C. F. B., No. 8 (in May No. The only one exactly right), 9, 10; Nellie Earring, 9; Mollie and Sallie Elliott, 8, 11; Della S. Mitchell, 10; L. T. Updike, 9; Jarvis H. Arnold, 9, 10; Mills P. Baker Jr., 8, 9; A. W. Sexton, 12; Horace P. Gage, 12 (with solution complete); Elisha Cook, 11, 12; C. L. Siewers, 11, 12, 13, 14 (well done); William G. Kieffer, 11, 12; Gertrude Kieffer, 11; Davault K. Millikan, 13; Isaac Oliver, 12, 13; Eleazer Kersey, 11; H. B. Ten Eyck, 11; Theodore T. Kieffer, 11; Eli Phillips, 12; Olive Robinson, 11; George Wright, Mary Costellie, 11, 12; Herrick J. Raynor, 12; "Subscriber" at Brandywine Hundred, 12; Justus Riehl, 12; Alexander Chalmers, 12; William Wiley, 12; Harry Jones, 12; Olive A. Barghey, 13; Elizabeth E. Ferington, 13; B. Sullivan, 11; G. K. Owen, 11, 12; Wilford Wilson, 11; Almon S. Givitzer, 12; William Burton, 9, 11, 12; Wesley Carpenter, 12; Joseph Vipoy, 12; W. Boyers, 12; H. N. Tiffany, 12; John N. Wells, 11; C. E. Harvey, 12, 14; E. C. Long, 12; R. Jennings Harris, 12; Jacob Staefler, 12; Lotie Myers, 12, 14; J. Frank Phillips, 16; Joseph Badger, 16, 17; J. E. Brown, 15; C. Everett, 17; E. W., 17; Geo. E. Hull, 16; Ermon A. Hull, 16; T. D. Stevenson, 16; Acushnet, 16, 17; Thomas McDonogh, 16, 17.

Scraps and Clippings.

MAJOR JACK DOWNING once said to Gen. Jackson: "Gin'ral, I have always observed that those persons who have a great deal to say about being ready to shed their last drop of blood, are amazin' purtic'lar about the first drop.

ETERNITY has no gray hairs. Here the flowers fade, the heart withers, man grows old and dies, the world lies down in the sepulchre of ages; but time writes no wrinkles on eternity! Stupendous thought! Earth has its beauties, but time shrouds them for the grave; its honors are but the sunshine of an hour; its palaces—they are but gilded sepulchres; its pleasures—they are but as bursting bubbles. Not so in the untired bourne. In the dwelling of the Almighty can come no footsteps of decay. Its way will know no darkening—eternal splendor forbids the approach of night.

VERY CONSCIENTIOUS.—"I sells peppermints on Sunday," said an old lady who kept a candy shop, "because they carries them to church and eats 'em, and keeps awake to hear the sermon; but if you wants pickled limes, you must come on week days. They're secular commodities."

PURSUIT OF PLEASURE UNDER DIFFICULTIES.—Attempting to eat soft mush and milk out of a jug with a knitting needle.

If you lost your nose what would you do for another? Take the first that turns up.

THE ARAB'S PRAYER.—"O God, be kind to the wicked; to the good thou hast already been sufficiently kind in making them good."

Whoever in the darkness lighteth another with a lamp, lighteth himself also. GELLERT.

"Accept God's gifts with resignation,
Content to lack what thou hast not:
In every lot there's consolation:

There's trouble, too, in every lot!" GELLERT.

An exchange gives reasons for not publishing a "poetic" effusion, as follows: "The rhythm sounds like pumpkins rolling over a barn floor, while some lines appear to have been measured with a yard stick, and others with a ten foot pole."

John Wesley says, "When I was young, I was sure of everything. In a few years, having been mistaken a thousand times, I was not half so sure of most things as I was before. At present I am hardly sure of anything, but what God has revealed to man."

A pleasant, cheerful wife is as a rainbow set in the sky when her husband's mind is tossed with storms and tempests; but a dissatisfied and fretful wife, in the hour of trouble, is like one of those fiends who are appointed to torture lost spirits.

A sad thing it is in human nature, that a man may guide others in a good path, without walking in it himself; that he may pilot others well over dangerous reefs, and yet wreck his own vessel, on its first and only passage over the same rocks.

"Angels in the grave, will not question thee as to the amount of wealth thou hast left behind thee, but of good deeds thou hast done in the world, to entitle thee to a seat among the blessed."—Koran.

Follow the laws of Nature, and you will never be poor. Your wants will be but few. Follow the laws of the world, and you will never be rich. You will want more than you can acquire.

If it be important to know whether a man will cheat you if he can, sound him as to his willingness to help you cheat somebody else.

With time and patience the mulberry leaf becomes satin. What difficulty is there at which a man should quail, when a worm can accomplish so much from a leaf.

A man who covers himself with costly apparel and neglects his mind, is like one who illuminates the outside of his house and sits within in the dark.

Ignorance and conceit are two of the worst qualities to combat. It is vastly easier to dispute with a statesman than a blockhead.

There is an essential meanness in the wish to get the better of any one; the only competition worthy a wise man is with himself.

Be calm and quiet in your life. You are not necessarily serviceable to others when you are troublesome to yourself.

The lays of a nightingale may be very delightful to a well fed man, but the "lays" of a hen are liked better by a hungry one.

An inventive Yankee has produced an apparatus which he says is a cure for snoring. He fastens upon the mouth a gutta-percha tube leading to the sleeper's own ear.

A recent philosopher has discovered a method to avoid being dunned.—"How?—How?—How?" Everybody asks. Never run in debt.

Dr. Franklin says, that "every little fragment of the day should be saved"—therefore when the day breaks, we should begin to save the pieces.

It is said that pearls are formed in Oysters by the secretion of crystalline matter caused by wounds, hence these gems have been called "the tears of the oyster."

None ever have been so good and so great, or have raised themselves so high, as to be above the reach of troubles. Our Lord was "a man of sorrows."

No man has a right to do as he pleases, except when he pleases to do right."

In matters of conscience, the first thoughts are the best; in matters of prudence, the last.

The best physicians are Dr. Diet, Dr. Quiet, and Dr. Merryman.

Which is the queen of roses in the garden?—The rose of the watering pot; it rains over all the others.

It is a great waste of raw materials to put five dollars' worth of beaver on ten cents' worth of brains.

When is a man, like friendship, most severely tried? When he stands a loan.

We may always joke when we please, if we are always careful to please when we joke.

The praises of others may be of use in teaching us, not what we are, but what we ought to be.

It is a dull and hurtful pleasure to have to do with people who approve of all we do or say.

It is a glorious thing to resist temptations, but it is a safe thing to avoid them.

If a man cheats you once, blame him; if a second time, blame yourself.

The man who confines himself to the drink which is best for him is well-supplied.

The discontented man finds no easy chair.

Newspapers and Periodicals in the United States.

We give below an abstract from a list of Periodicals issued in the United States for the present year, according to the "American Newspaper Directory, etc.," recently issued in this city. The list, made up for the beginning of the year, was far too large, we are quite sure, and a large number of papers have "died" since January. The list names 61 as devoted to agriculture and farming, but there are not 50 of this class—we can not number over 45, including horticultural and agricultural. There are now, we judge, just about 4,400 periodicals, including dailies, semi-weeklies, weeklies, monthlies, and quarterlies. The Directory gives 5,253, issued in 2,042 cities and towns, and distributed as follows:

Daily papers.....450 Weekly papers.....4,273
Tri-weekly papers.....74 Monthly papers.....356
Semi-weekly papers.....63 Quarterly papers.....38

Of these, there are set down to New-York City, 256, to Boston, 136; to Philadelphia, 93; to Cincinnati, 70; to San Francisco, 57; to St. Louis, 55; to Chicago, 53; to New-Orleans, 48; to Baltimore, 37; to Louisville, 27; to Richmond, 20; to Charleston, S. C., 12; to Brooklyn, N. Y., 8.

By States they stand:

New-York....351 Louisiana...117 Connecticut...64
Illinois.....455 Alabama.....114 South Carolina 60
Pennsylvania.440 California.....113 Arkansas.....56
Ohio.....436 New-Jersey...108 Kansas.....49
Massachusetts.282 Tennessee...100 New-Hampshire 45
Indiana.....362 Maryland.....92 Vermont.....42
Iowa.....197 Georgia.....91 Florida.....28
Virginia.....186 North Carolina 91 Rhode Island..22
Missouri.....178 Mississippi...86 Oregon.....18
Michigan.....152 Kentucky.....84 Delaware.....15
Wisconsin.....143 Maine.....74 Dist. Columbia 15
Texas.....128 Minnesota.....66 Territories....26

The Union States have 4,193 of these periodicals, and the Seceding States 1,057.

In language, there are 253 German; 16 French; 5 Welsh; 4 Spanish, (this is too small); 3 Italian; 1 Indian.

In contents they are classified; Politics and news, 4,725; Religious, 324; Agriculture, 61; Medical, 44; Price Currents, 26; Temperance, 13; Arts and Sciences, 10; Railroads, 10; Mining, 9; Music, 8; Law, 6; Scientific, 5; Free Masonry, 5; Printing, 4.

Our Exhibition Tables.

The following articles not before noticed, have been recently exhibited at the office of the American Agriculturalist.

FRUIT.—*Strawberries.*—Boyden's Mammoth, 4½ inches in circumference, and Wilson's seedling, by C. S. Pell, Supt. N. Y. Orphan Asylum; Chorlton's Prolific, W. Chorlton, Staten Island, N. Y.; Austin's Seedling from Shakers at Watervliet, by W. S. Carpenter, N. Y.; also specimens by J. C. Thompson, Staten Island, N. Y.; Triomphe de Gand, very fine, Scottish Seedling, Wilson's Improved, and Chorlton's, W. F. Heins, Esq., N. Y. Union, O. Judd; Boyden's Mammoth and Austin's Seedling, Robert Benner, Queens Co., N. Y.; Wilson's Seedling, and Hurd's Goliah, splendid specimens, J. Knox, Alleghany Co., Pa. — *Mulberries*, two varieties, S. Tuttle, New-Haven Co., Conn. — *Gooseberries.*—G. M. Usher, and J. C. Thompson, Staten Island, N. Y. Fine branches, by Robert R. Dare, N. Y. — *Currants*, White Grape, very fine, J. C. Thompson; Red Dutch a very full branch of beautiful berries, George Pollock, Westchester Co., N. Y.

FLOWERS: Double Apple Blossoms, very curious, J. F. Cleu, Dutchess Co., N. Y.; Papaver Orientale, a magnificent bloom, also Arum dracunculoides, or Dragon flower, very large and showy; H. T. Haviland, Kings Co., N. Y. Rhodanthé Manglesii, Forget-me-nots, Swan River Daisy, Zinnias, a beautiful collection of Poppies, and other cut flowers, O. Judd; Cereus Grandiflora, a splendid bloom preserved in Alcohol, A. Janes, Westchester Co., N. Y. New variegated Larkspur, very pretty, Mr. Wilson, N. Y.

VEGETABLES, ETC.—Fine growth of Victoria Rhubarb.

George W. Underhill, Queens Co., N. Y. Passaic Giant Rhubarb, new seedling, W. H. Merrill & Co., Passaic Co., N. J. Bermuda Potato Onions, large and fine. S. B. Conover, Washington Market, N. Y. Early six weeks sweet corn, ready for cooking, G. M. Usher, Staten Island, N. Y. Long Island Rye, 6 feet 9 inches high, A. McCatler, Suffolk Co., N. Y. Splendid growth of Rye and Timothy, Edwin Keeler, Westchester Co., N. Y. Flour from California wheat, ground on Bennett's Burr Stone farm mill.

Flax Cotton—Premiums.

The Rhode Island Society for the Encouragement of Domestic Industry offer a Premium of \$30 for a bale of not less than fifty lbs. of the best prepared Flax Cotton, fit for use on cotton machinery, accompanied with a statement of its culture, production and preparation, including cost of the various processes. And a Premium of \$20 for the second best bale of the same, on the same conditions. The bales to be delivered at the rooms of the Society on or before September 11, 1861.

The Society will defray all the necessary expenses of transportation on the bales of proper size offered for premiums, and will claim the right to retain the same at their pleasure, on payment of a fair price. The flax cotton will be open for public examination at the Exhibition of Vegetables, Fruits, and Flowers, to be held by the Society at Railroad Hall, Providence, September 11, 1861. Communications on the subject should be addressed to W. P. STAPLES, Secretary.

Agricultural Exhibitions for 1861.

Owing to the deranged state of the country, many Agricultural Societies have, unwisely we think, decided not to hold their usual Exhibition this year. The list published below contains all we have received notice of up to the date of July 18th. It is, as will be noticed, considerably smaller than that published in the corresponding month last year. We will thank managers of Agricultural Societies, or others interested, to notify us of any omissions, that the list may be made as complete as possible in our next issue.

STATE FAIRS.

Name.	Where held.	Date.
Wisconsin.	Milwaukee.	Sept. 2-6
Illinois.	Chicago.	9-14
Ohio.	Dayton.	10-13
California.	Sacramento.	16-21
New-York.	Watertown.	17-20
Kentucky.	Louisville.	17-21
Canada West.	London.	24-27
Iowa.	Jowa City.	24-27
Minnesota.	St. Paul.	24-27
Oregon.	Oregon City.	Oct. 1-4

COUNTY FAIRS.

NEW-HAMPSHIRE.		
Hillsboro'	Milford.	Sept. 25-26
VERMONT.		
Rutland.	Rutland.	Oct. 2-3
MASSACHUSETTS.		
Worcester North.	Fitchburg.	Sept. 25-
OHIO.		
Clermont.	Olive Branch.	Sept. 3-6
Franklin.	Columbus.	3-6
Ashabula.	Jefferson.	4-6
Madison.	London.	4-6
Clermont.	Bantam.	10-13
Geauga.	Barton.	17-19
Portage.	Ravenna.	18-19
Guernsey.	Cambridge.	18-20
Lake.	Painesville.	19-21
Tuscarawas.	Canal Dover.	22-24
Morgan.	McConnellsville.	24-26
Trumbull.	Warren.	24-26
Miami.	Piqua.	24-27
Clarkway.	Circleville.	25-27
Jefferson.	Staubenville.	25-27
Columbiana.	New Lisbon.	25-27
Allen.	Lima.	26-28
Hancock.	Findlay.	26-28
Richland.	Mansfield.	Oct. 1-3
Summit.	Akron.	1-3
Mahoning.	Canfield.	1-3
Coshocton.	Coshocton.	1-3
Carroll.	Carrollton.	1-3
Clark.	Springfield.	1-4
Champaign.	Urbana.	1-4
Butler.	Hamilton.	1-4
Sandusky.	Fremont.	2-4
Hardin.	Kenton.	2-4
Defiance.	Defiance.	2-4
Stark.	Canton.	2-4
Harrison.	Cadiz.	2-4
Greene.	Xenia.	8-10

CONNECTICUT.

Fairfield.....Bridgeport.....Sept. 17-20

NEW-YORK.

Rensselaer.....Lansingburgh.....Sept. 2-5
Oneida.....Rome.....9-12
Chenango.....Norwich.....10-12
Delaware.....Hobart.....18-20
Oxford (Chenango Co).....Oxford.....23-25
Westchester.....Mount Vernon.....24-26
St. Lawrence.....Canton.....25-27
Ulster.....Kingston.....25-27

WISCONSIN.

Racine.....Union Grove.....Sept. 17-19
Richland.....Richland Centre.....21-22

OREGON.

Lane.....Eugene City.....Oct. 9-10
Washington.....Hillsborough.....16-17

ILLINOIS.

La Salle.....Ottawa.....Sept. 24-27
Madison.....Edwardsville.....Oct. 1-4
Grundy.....Morris.....1-4

CALIFORNIA.

Tehama.....Red Bluff.....Sept. 11-

Reports on the State of the Crops.

The following are the only definite Crop Reports received up to July 18, at which date we necessarily close the pages for the stereotypers. We hope to have a largely increased list of reports prior to the middle of August. See particulars asked for on page 224, July *Agriculturist*.

Hancock Co., Ill., June 18. George W. Powell.—Much wheat sown, prospect improving. Hessian fly injurious, more numerous than ever known in this county. Much late wheat sown, and consequently a great chance for the midge. Oats but little sown by reason of wet Spring. Corn planted late, but in good condition. Grass more promising than for many years. Fruit generally killed by frost.

St. Joseph Co., Ind., July 2, 1861. H. E. Hurlburt.—Wheat one fourth more sown than last year. Crop not as good—damaged by insects and by cold, wet Spring—harvest will commence next week. Corn, large breadth planted—put back by cold wet weather, has come forward rapidly last 2 weeks; looks quite promising. Hay: clover short, owing to drouth, now cutting, crop light. "Prairie" grass good, not cut till August, promise large. Potatoes, crop large, look well. Fruit much damaged by late frosts and long continued East wind. No peaches, no plums, few common cherries. Fair amount of apples.

McDonald Co., Mo., June 15. Henry H. Fox.—Wheat is good; it is now being cut. Corn is very small, but looks well generally. We had a very wet Spring—rivers higher than for several years. Provisions of all kinds high and scarce, except beef, which is cheap.

Minnesota; Olmsted Co., July 4.—F. Johnson, P. M., writes: "I have been through this and several adjoining counties, and think the Wheat crop will not average over two thirds of last year, when it was 25 bushels to the acre. Yet, say to our friends of the Mark Lane Express, that Minnesota will contract to supply England with one half of all the wheat wanted next year; and with one year's notice this State will take the whole contract, provided our flag is honored, and neutrality maintained. While our young men have gone to the field of honor, our young ladies have volunteered for the harvest field; and it is only by their aid that we shall be able to save our crops from returning to the soil. Say to Tim Bunker Esq., that some of his family live 'away out west,' and they are doing their best to raise 'breatworks.'—Bye the bye, they expect to raise another Bunker Hill, with 'Jeff. Davis' on the top as a 'scare-crow' to all future traitors."

Jackson Co., Oregon, June 1st. R. A. Gray.—The crops look fine; I think we shall have one third more grain in this County the present year than for any previous season.

Carroll Co., Ill., July 9, 1861. M. J. Stephenson.—Wheat somewhat more than the usual amount sown. That on new ground is generally good, other fields somewhat injured by rust. Corn, not as forward at same date last year, owing to cold, late Spring. Farmers have finished plowing through it three times, and are about to commence the fourth. Potatoes look well; not so many planted as last year. Grass is fine. Wheat 40 to 45 cts. per bushel; Corn 10 cts.; Butter 5 to 6 cts. per lb.

Washington Co., Ky., June 28. J. D. Wayne.—Wheat, large amount sown, now being harvested, and the finest

grain and largest yield ever known in this part of the State. Rye, ditto. Corn, large area planted, but owing to drouth, does not look promising. Oats will be short. Hay much injured by the Army worm in the latter part of May and first of June, but will make over half a crop. Blue grass is pretty well burnt off, but clover is fine. Potatoes promise fair. Fruit in great abundance. Tobacco, which is not much cultivated here, looks badly.

Ohio Co., Va., July 4. John Caldwell, jr.—Wheat, about the same surface sown as last year; one-third winter-killed or destroyed by Hessian fly; the remainder of good quality and now ready for the reaper. Corn, large area planted, but is of small growth for the time of year. Oats headed out about six inches high; will be a light crop. Hay, not half a crop. Pastures suffering from drouth: only one light rain in June.

Eric Co., O., July 12. Delos C. Ransom.—Wheat great breadth sown, much on stubble ground. Just beginning to harvest. Crop medium, from 15 to 20 bushels per acre. A few weevils; the Hessian fly caused some crinkling of stalks. Corn, considerable planted. Owing to late Spring, and dry weather in June, many fields are small and suffering. Taking the County together, yield estimated at about 30 bushels per acre. Oats, small area sown—crop medium. Buckwheat somewhat generally sown. Recent rain helped it much. Potatoes injured by heat.

Rockland Co., N. Y., July 14. I. Wilcox.—Corn backward, with here and there a good field. Rye good. Oats short but heavy headed. Hay rather short. Potatoes promise but light returns. Fruit generally scarce.

Orleans Co., N. Y., July 15. P. Ferris.—Wheat, one-third more sown than last year. Winter wheat poor; the yield will not be over half, perhaps not over one-third to the acre what it was last year; much injured by freezing in the month of March. Spring wheat, early sown good, late sown injured by the drouth in June; as was also barley and oats. But little barley sown. Oats much less than usual sown, and a considerable share put in late—prospect not over half a crop. Corn poor. Potatoes better, but injured, as well as all other Spring crops, by the June drouth. But little hay done yet; timothy good; clover badly killed out. Fruit: no peaches or pears to speak of; a light crop of apples and cherries.

Washington Co., N. Y., July 15. William Forbes.—Winter Wheat; little sown, but looks well....Spring Wheat, looks poor....Rye, good, more than an average crop. Oats will not be half last year's yield. Corn looks bad; it is very late, and badly injured by worms. Potatoes promise well. Fruit, scarce; very few apples, no cherries or plums. Hay, a light crop; the past two seasons have been very dry and materially injured the roots, and put our meadows back.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday Morning, July 19, 1861.

The following table presents a condensed view of the business transacted for a month past, these figures being carefully compiled from our daily notes made in the markets.

TRANSACTIONS AT THE NEW-YORK MARKETS.						
RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	472,000	3,105,000	1,132,000	188,000	54,100	477,000
24 days last month	379,400	3,820,000	3,197,000	36,450	69,000	365,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	399,000	4,475,000	1,861,000	153,500		
24 days last month	386,500	4,168,000	3,304,000	40,700	21,000	

The receipts of Breadstuffs, since our last, have been less extensive, while the sales of all kinds, save Corn, have been decidedly heavier. Early in the month, the market was depressed by unfavorable news from Liverpool, the scarcity of vessels here, and the rapid rise in rates on freight to European ports, which seriously impeded the export movement. The result was a very material reduction in prices, which had the effect of discouraging parties in the interior from sending forward their supplies of produce freely. The arrivals at this port, therefore, fell off considerably, and as the commercial advices from England by the latest steamers were more favorable, and shipping accommodation became more abundant, the demand increased and prices rallied. During the past three days, the tendency has been decidedly upward, and the principal holders have not been eager to sell, as they have been anticipating a further improvement in the market. The available stock in the hands of the receivers is moderate for the season, and the low rates recently current have made holders rather indifferent about selling, at present. The crops in most parts of our own country are reported as generally very satisfactory. Three or four small lots of the new crop of Wheat, from New-Jersey and Delaware, have been received and sold to the City millers at \$1.15@1.25 per bush. There are

complaints from some portions of the country of injury to the new Spring and White Wheat from the fly and rust, but this is sectional. The crop is late, and therefore, in more danger than in ordinary seasons; still there is a prospect of an average yield, if not of an abundant harvest. Much of the Corn coming to market is unsound, heated, or damp, altogether unfit to ship, which retards the filling of export orders greatly. The Rye that is arriving from the West, and from Canada, is very poor, and badly cleaned, so that it does not bring any thing like as high prices as that from the State of New-York; the difference being about 20 cts. per bushel, especially on Western Rye. Barley is out of season, and not sought after, even by brewers. Oats are plenty and are now coming into more request....The stock of Cotton has been reduced to about 25,000 bales, and prices have advanced, but, at the close, business was restricted, the demand being mainly from spinners....There has been a very brisk export inquiry for Domestic Tobacco at buoyant rates; stocks are now very light....Rice, Seeds, and Hemp, have been less active, but firm....Hay, has been mainly inquired for by local buyers, and for city use, and has ruled low, as there is an abundant new crop....Hops have been in good request at firmer rates....Wool has been dull and unsettled, in this market. In the interior, buyers are governed now by surrounding gloomy prospects of the manufacturing interest, rather than by theories that can be woven out of speculations regarding coming events. A limited amount of the new clip has been bought at prices ranging from 20c. @ 30c. Extra fine fleeces that sold last season at 45c. would not now bring over 30c. So far, all that has been offered at these figures has been taken; but buyers are quite as cautious in their movements as sellers are reluctant to accept the figures, and the market is unsettled....Groceries have been quite brisk at much higher prices....Other branches of trade have exhibited no important changes.

CURRENT WHOLESALE PRICES.

	June 18.	July 19.
Flour—Super to Extra State	\$4.50 @ 4.95	\$3.90 @ 4.50
Superfine Western.....	4.45 @ 4.90	3.85 @ 4.00
Extra Western.....	4.00 @ 4.25	3.45 @ 3.75
Fancy to Extra Genesee.....	5.00 @ 7.25	4.55 @ 6.75
Super, to Extra Southern.....	5.65 @ 9.00	5.10 @ 8.75
Rye Flour—Fine and Super.....	3.00 @ 4.00	2.50 @ 3.50
CORN MEAL.....	2.85 @ 3.10	2.75 @ 3.07½
WHEAT—Canada White.....	1.40 @ 1.55	1.18 @ 1.25
Western White.....	1.32½ @ 1.50	1.15 @ 1.30
Southern White.....	90 @ 1.30	70 @ 1.35
All kinds of Red.....	90 @ 1.30	70 @ 1.12
CORN—Yellow.....	46 @ 50	48 @ 50
White.....	46 @ 50	48 @ 52
Mixed.....	36½ @ 45	39 @ 45
OATS—Western.....	28 @ 31	28 @ 31
State.....	31½ @ 32½	32 @ 33½
Rye.....	50 @ 65	Nominal
HAY, in bales, per 100 lbs.....	45 @ 75	45 @ 70
COTTON—Middlings, per lb.....	14 @ 14½	15½ @ 16
Rice, per 100 lbs.....	4.50 @ 6.50	5.00 @ 6.00
Hops, crop of 1860, per lb.....	12 @ 22	16 @ 26
FEATHERS, Live Geese, p. lb.....	Nominal	32 @ 33
SEED—Clover, per lb.....	None selling	None selling
Timothy, per bushel.....	None selling	None selling
SUGAR—Brown, per lb.....	4½ @ 7	5 @ 7½
MOLASSES, New-Orleans, p. gal.....	30 @ 35	35 @ 40
COFFEE, Rio, per lb.....	10½ @ 14	11½ @ 14½
TOBACCO—Kentucky, &c, p. lb.....	4 @ 15	4½ @ 16
Seed Leaf, per lb.....	3½ @ 25	4 @ 25
WOOL—Domestic fleeces, p. lb.....	28 @ 55	25 @ 45
Domestic, White, per lb.....	22 @ 38	18 @ 35
TALLOW, per lb.....	8½ @ 9	8½ @ 9
OIL CAKE, per tun.....	29.00 @ 34.00	Nominal
PORK—New Mess, per bbl.....	15.50 @ 15.75	15.50 @ 15.62½
Prime, new, per bbl.....	10.50 @ 10.75	10.00 @ 10.25
BEEF—Repacked mess.....	8.75 @ 10.25	8.25 @ 10.25
LARD, in bbls, per lb.....	8½ @ 9½	8 @ 9
BUTTER—Western, per lb.....	10 @ 15	8 @ 14
State, per lb.....	3 @ 8	3 @ 7
CHEESE.....	12 @ 14	13 @ 14
EGGS—Fresh, per dozen.....	12 @ 14	12 @ 14
POULTRY—Fowls, per lb.....	12 @ 14	12 @ 14
Chickens, Spring, per pair.....	62 @ 75	62 @ 75
Turkeys, per lb.....	12 @ 14	12 @ 14
Wild Figeons, per doz.....	1 @ 1.25	1 @ 1.25
Dried Apples, per lb.....	10 @ 12	10 @ 12
Dried Peaches, per lb., peeled.....	10 @ 12	10 @ 12
Dried Cherries, pitted, per lb.....	10 @ 11	10 @ 12
Dried Raspberries, per lb.....	10 @ 11	10 @ 12
POTATOES—Merceds, n. p. bbl.....	2.37 @ 2.50	2.00 @ 2.12
Raspberries, per ½ qt. bkt.....	5 @ 5	5 @ 5
CURRENTS, per lb.....	3 @ 3	3 @ 3
BLACKBERRIES, per qt. box.....	12½ @ 12	12½ @ 12
HUCKLEBERRIES, per bushel.....	4.50 @	

Exports from New-York, January 1, to July 17.

	1860.	1861.
Wheat Flour, bbls.....	606,975	1,608,305
Rye Flour, bbls.....	4,646	6,072
Corn Meal, bbls.....	51,781	58,449
Wheat, bushels.....	2,121,725	10,711,605
Corn, bushels.....	1,763,725	4,974,185
Rye, bushels.....	100	190,034
Barley, bushels.....	8,280	1,000
Oats, bushels.....	98,764	142,464

Export of Breadstuffs to Great Britain and Ireland, from Sept. 1, 1860.

From	To Date.	Flour, bbls.	Wheat, bu.	Corn, bu.
New-York.....	July 12, 1861..	1,347,657	17,825,883	6,326,927
New-Orleans.....	June 14, 1861..	179,427	66,767	1,464,267
Philadelphia.....	July 4, 1861..	173,894	1,433,803	695,628
Baltimore.....	July 4, 1861..	127,031	947,346	853,200
Boston.....	July 5, 1861..	96,081	13,032	44,100
Other Ports.....	June 28, 1861..	128,470	7,235,192	15,451
Total.....		2,252,560	22,523,022	9,369,573
To about same period, 1860 ..		443,245	2,383,369	2,063,592
To about same period, 1859 ..		91,230	415,800	342,013
To about same period, 1858 ..		1,164,148	5,847,159	5,274,676

To the Continent.

From	To Date.	Flour, bbls.	Wheat, bu.	Corn, bu.
New-York.....	July 2, 1861..	54,276	1,760,489	41,023
Other ports to latest date.....		7,796	9,073	3,042

Breadstuffs Trade at Milwaukee.

	Receipts.	Shipments.
	Flour. Wheat.	Flour. Wheat.
Week ending July 8.	7,410 168,999	16,445 141,348
Same week last year.	1,988 36,249	10,276 37,500
Since January 1.....	224,366 4,881,872	315,538 5,215,698
Same time last year.....	111,071 1,964,837	241,063 1,734,671

Receipts of Breadstuffs at Chicago, Jan. 1 to July 9.

	1861.	1860.	1859.
Flour, bbls.....	613,165	229,022	210,690
Wheat, bushels.....	5,232,484	1,848,202	1,422,239
Corn, bushels.....	9,433,364	9,233,009	2,660,642
Oats, bushels.....	511,982	612,978	347,360
Rye, bushels.....	227,427	61,781	25,433
Barley, bushels.....	306,389	190,356	120,469

The following table shows the total receipts of Grain (including Flour) in Chicago, from the 1st of January till the first of July, for a series of years:

	Bushels.	Bushels.
1861.....	17,536,763	1857.....6,244,092
1860.....	12,399,690	1856.....7,418,032
1869.....	5,386,669	1855.....6,887,596
1858.....	10,270,987	

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been fully supplied with bevers during the past 5 weeks, the average being 4,141 per week. This is 100 more than for the corresponding season last year, and prices are fully 1½c. per pound less. There has been a decline of 1c. since last month. Trade is dull, it being impossible to dispose of all the cattle offered during the past fortnight. Prices now range from 5½c. to 5½c. for choice bullocks, 7½c. @ 8c. for fair to good, and 6c. @ 7c. for poor, all kinds averaging, July 17th, 7½c. per lb., estimated dressed weight.

VEAL CALVES.—Receipts are falling off, as the season advances, although the market was overstocked at the last sales day. Receipts average 901 per week for the past 5 weeks. Prices are lower than last month, nothing bringing over 4½c. per lb. live weight, and very good veals selling for 4c. and so down to 3c. for common calves. Most of the stock sold at 3½c. @ 4c. which is lower than we remember to have previously reported it.

SHEEP AND LAMBS.—These are coming in freely, the weekly average for 5 weeks past being 10,919, while 12,300 were on sale at the last market. Prices are low and trade generally dull. July 17th, sheep brought prices equivalent to 3½c. @ 3½c. per lb. live weight for good sheep—a few extra fat ones 4c.—and 3c. for thin common stock. Per head they ranged from \$1.50 to \$4. Lambs sold at 5½c. @ 6½c. per lb. or \$2 @ \$4 each.

LIVE HOGS.—Receipts about as last month with a lighter demand, so that prices have gone down materially. Hogs sold lower July 9th, than we had ever seen them previously, good corn fed hogs bringing but 3½c. @ 3½c. At last market they advanced near ½c. Corn hogs selling at 3½c. @ 4c. and still fed at 3c. @ 3½c. live weight. Weekly average for the past 5 weeks, 5,373.

The Weather. Since our last report, there has been a decided change for the better. Instead of the cold, wet and backward weather then reported, we have had a hot, comparatively dry "spell," and the various unharvested crops are in a good degree of forwardness. We have seldom had finer weather for securing hay and grain, than the first two weeks of July, and corn has made a rapid growth, and promises a fair yield, save in localities where the Army worm or other insects have been troublesome. —OUR DAILY WEATHER NOTES, condensed, read thus: June 19, 20, clear, fine—21, showery—22, cloudy—23, clear, fine, shower at night—24, 25, fine, warm—26, clear, fine, shower at night—27 to 30, warm, clear, growing weather. —July 1, clear, heavy rain at night—2, 3, clear, cool—4 to 6, clear and warm, with light rain on night of 6th—7 to 12, "heated term," the mercury reaching 94° in shade, and 130° in sun, on the 9th, light showers at night of 9th and 10th—13, clear A. M., cloudy P. M., with a little rain at night—14, cloudy A. M., light rain P. M.—15, clear, fine, but cooler—16, clear, warm, welcome rain at night—17, clear, moderately warm growing weather—18, 19, clear and warm.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

JUNE.				
1.....56	7.....56	13.....64	19.....59	25.....60
2.....61	8.....61	14.....60	20.....64r	26.....65r
3.....59r	9.....60	15.....65	21.....62r	27.....67
4.....64r	10.....62r	16.....73r	22.....65	28.....69
5.....57	11.....66r	17.....63	23.....65r	29.....66
6.....50r	12.....65	18.....59	24.....61	30.....53
Average.....				62

JULY.				
1.....64r	4.....63	7.....68	10.....72r	13.....62r
2.....60r	5.....66	8.....71	11.....68	14.....64r
3.....58	6.....64r	9.....74r	12.....63	15.....60

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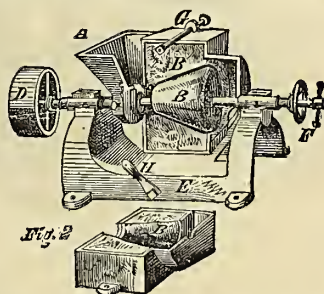
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[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may well be procured by any one making up a library. Those we esteem specially valuable, are marked with a *.]

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Oscar.....	\$2 per Dozen.
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Great Austin Seedling....	\$1 per Dozen; \$5 per 100.
Deptford White.....	do. do.
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Feast's Fillmore....	do. do. do.
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For \$1 we will send by mail, post-paid, and carefully put up in cotton and oiled silk

6 Oscar or Wizard of the North;
or 10 Austin Seedling, or any other kind at \$1 per dozen.

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**GLASS FRUIT JARS, WITH A SMALL
SHOULDER ON THE INSIDE OF THE NECK.**

Quart Jars with Corks.....	\$1.25 per Dozen.
Pint Jars do.	90 cts. do.
Tin Covers.....	12 cts. do.

GIBB'S PATENT CYLINDER PLOW.

The lightest draft and best sward turning plow. For the result of a trial of this with the "Eagle" Plow, see p. 136, May No., *American Agriculturist*.

PRICES.—No. 0, with Coulter Share.....	\$ 8.
No. 1, do. do.	10.
No. 2, do. do.	11.
No. 3, do. do.	12.

With Wheel, \$1 extra. With Skim Attachment, \$1.50 extra.

1 Ayrshire Bull, 3 years old, thorough-bred, by Malcomb.

12 South Down Sheep.

12 Cotswold Sheep.

1 pair Berkshire Hogs, 2 years old. Also Suffolk Pigs, pure breed.

QUAKER SALVE, unsurpassed for cuts, bruises, etc. Price, 15 cents per Box, or 25 c. by mail.

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Also by the Dozen or Gross at Manufacturer's prices.

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Prices \$10, \$12, and \$15.

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will be furnished (from S. B. PARSONS, Flushing.)

For Queen, with a sufficient number of workers

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For full hive..... 25

THE HYDROPULT, a Hand Force Pump. Price \$12.

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The whole is neatly japanned and ornamented with bronze. Prices: Stand of one Lock \$1.25; 6 Locks \$6; 12 Locks \$12; 28 Locks \$28.

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See *Agriculturist*, October, 1860.

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JOHNSON'S CAMP STOOL.

Very convenient for Hotels, Pic Nic Parties, and and portable Lawn Seats. Price 50 cents.

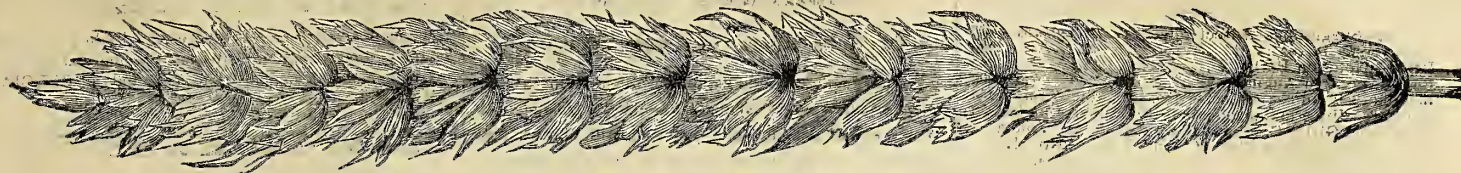


Fig. 1—"GIANT WHEAT."

The above engraving, prepared for our March number, is an exact copy of one appearing in the English journals. Almost incredible accounts of the productivity of this Wheat were given, and we sent to our English correspondent to procure a quantity and forward for our distribution. Two bushels were obtained at a fabulous price, and we have been distributing it in small parcels for experiment. We should have sent the whole of it away, had we known just how many parcels would be called for, and how much could be put in each. The little now remaining we shall distribute, with another variety described below, as premiums. We do not credit the half that is said of this wheat, though the accounts are given in a leading agricultural journal, published where the wheat is grown, and where they might be easily exposed, if unreliable. But if this wheat prove a fourth part as valuable here as it is represented to be in England, it will be decidedly worthy of cultivation. The experiment will cost but little, and is worth a trial. If successful, those who raise the first seed in quantity will be ahead in this market.



Fig. 2—"HALLETT'S PEDIGREE NURSERY WHEAT."

We present in Fig. 2 a fac simile of an engraving of another variety of wheat, which was brought before the public in England, last Autumn. This engraving was placed beside a glass case of the heads, at the Show of the Smithfield Club, last year, and the public invited to compare them, and no one disputed the accuracy of the representation. Mr. Hallett states that a single kernel planted, produced 39 heads, containing 2145 kernels. As soon as we saw the statements concerning this Wheat, we at once sent for a quantity of it to add to our free Seed Distribution, notwithstanding the enormous price asked for it, but our Correspondent could only get a small lot. There was not enough to offer in the general distribution, and it was too costly for that purpose. We shall, therefore, reserve a little for our own experiment, and offer the rest that we have, as a special premium, as named below. We can only say of this, as we have said of the "Giant Wheat," above, that the claims put forth for it are too large to fully credit; though it would seem to be of unusual value, and it will cost little to test it here. Mr. Hallett claims to have "bred up" this wheat from the size shown in Fig. 3, by careful selections from year to year. Those who obtain the specimens of this, or the giant wheat, or both, will do well to plant the kernels separately, in drills, in a good soil, to the end that as large a yield as possible may be secured, should these varieties prove worthy of future cultivation. Plant or sow at the usual time of putting in Winter wheat.



Fig. 3—AN ORIGINAL HEAD.

THE WHEAT PREMIUM.

To any one who will now procure and forward a new subscriber to the *Agriculturist*, at \$1 a year, we will send (post-paid,) a parcel of each of the above varieties of wheat—one parcel to contain, say about 400 kernels of the "GIANT WHEAT," and the other about 600 kernels of HALLETT'S PEDIGREE NEW WHEAT. This amount of seed (1000 kernels,) will produce a large supply for another year.

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We have on hand a supply of two excellent paper files, made expressly to fit the *Agriculturist*, for the convenience of our subscribers who desire to preserve the successive numbers of this journal in regular order and ready for reference.

The first, and most perfect, is the Portfolio Cover, resembling a neat book cover, provided with cord, needle, and India rubber spring, by means of which the numbers are quickly fastened in, almost as firmly as if full bound. The covers are stamped, and have the name of the paper printed on. When one volume is complete, the numbers can be stitched together in a volume, and the cover used for the next volume. It is the perfection of a newspaper file, combining the advantages of an adjustable file, and a bound cover. Prices, 60 cents, 75 cents, and \$1, according to the material, style, etc. If sent by mail, 21 cents extra for postage.

The second, is a convenient cheap wood file, which elaps the papers at the back, holding them about as firmly as if stitched together. This is the most convenient and perfect newspaper file, for its price, that has yet been invented. We have had them manufactured just to fit the size of this journal. Price 15 cts. If sent by mail, 12 c. extra for postage.

New Varieties of Strawberries.

The following have proved to be superior and valuable additions to our gardens:
Anslin, the largest strawberry \$1 p. doz.; \$5 p. 100; \$30 p. 1000.
Deptford, or Excelsior White, the best white strawberry in cultivation, as large as the Wilson, per doz. \$1; per 100, \$5.
Downer's Prolific, a beautiful scarlet berry, more productive than the Wilson, per doz. 50 cts; per 100, \$3. Introduced last year by Mr. Downer, of Kentucky, at \$5 per dozen.
Pyramidal Chili, a berry of great promise, of the largest size, and very productive, per doz. 50 cts; per 100, \$3.
Feast's Filmore, very large and attractive, per doz. 50 cts.
Sir Harry, a very large variety, for amateurs, per doz. 50 cts.
Voris Queen, very large, per doz. 50 cts. per 100, \$3.
Staten Islander, very large and productive, per doz. 50 cts.
Bartlett, superior to the Wilson, large sweet, per doz. 50 cts.
Wizard o, the North, remarkable for its size, per doz. \$2.
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La Constance, very large and beautiful color, per doz. \$1.
Tropole's Victoria, of the largest size, valuable, per doz. 50 c.
Triomphe de Gand, per 100, \$1.50; Scott's Seedling, per 100, \$1; Jenny Lind, per 100, \$1; Wilson's Albany, per 100, \$1; per 1000, \$8.

The new varieties will not be delivered before 1st Sept. Address WM. S. CARPENTER, 468 Pearl-st., New-York.

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All the leading varieties, new and old, native and foreign. Send for Catalogue. J. KNOX, Box 155, Pittsburg, Pa.

SEED WHEAT—Red and White—the best varieties.

RYE—White and Mammoth. A full assortment of every description of FIELD and GARDEN SEEDS, all of best varieties, and true to their names. R. L. ALLEN, 189 and 191 Water-st., New-York.

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Chester County Pigs.

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The selections are made only from pure bloods, and chiefly from premium animals, which have been uniformly successful at our local Fairs. He refers to purchasers from him in all sections of the Union.

PASCHALL MORRIS, Agricultural and Seed Warehouse, 1120 Market-st., Philadelphia, Pa.

RUSSIA OR BASS MATS, SELECTED EXPRESSLY for budding and tying, GUNNY BAGS, TWINES, HAY ROPES, &c., suitable for Nursery purposes, for sale in lots to suit by

D. W. MANWARING, Importer, 248 Front-st., New-York.

Great Austin Seedling Strawberry.

This remarkable variety, after three years trial, has proved to be the most wonderful Strawberry in cultivation; it has been produced this year, sixteen of which weighed one pound; it is as productive as the Wilson, much larger, and finer flavored, the berry is a beautiful scarlet, and commands the highest market price; it continues long in bearing, and maintains its large size throughout; it was sent to New-York market from Watervliet, N. Y., up to the 20th of July, long after all other varieties had disappeared, commanding a high price; it is without doubt the most valuable market berry in cultivation; it is much more prolific than the *Triomphe de Gand*, larger in size, and altogether more attractive. The Austin will now be offered at greatly reduced prices, giving all an opportunity to plant this variety for a most profitable market berry. Plants will be delivered in rotation as ordered, at \$1 per doz.; \$5 per hundred; or \$30 per thousand.

Orders addressed to either
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PATENT CYLINDER PLOWS.—Nos. 0, 1, 2, and 3—by far the lightest draft and best turning plows in use—with or without the light skin attachment. For description, see *American Agriculturist*, May No. page 186.

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Contents for August, 1861.

August—Suggestions—Insect Life.....	Illustrated.....	225
Bags versus Boxes		246
Bees—Notes on Early		245
Bees—Apriary in August.....		228
Beginner's Troubles—Raspberries—Planting Trees.....		239
Blunders—Undertaking too Much—Draining—Dahlias.....		239
Boys' and Girls' Columns—Editor with his Young Readers—Explanation of War Terms—No. II.....		
Illustrated—An Eventful Period—How to Learn Geography—Learn to Punctuate—Problems, etc., etc.....	13 Illustrations.....	248—50
Bulbs—Take Care of the.....		245
CALENDAR OF OPERATIONS FOR THE MONTH.....		226
Cattle—Black Leg in Calves.....		238
Cattle—How to Feed Calves.....		238
Cattle—Premium proposed for Steers.....		238
Census—Population of U. S. in 1860.....		231
Copper—Never Cook in.....		247
Corn—Experiments with Manures.....		232
Corn—Steaming Soft and Frozen.....		236
Crops—Reports on.....		251
Curant Jelly—Notes on.....		247
Draining—How Tiles are Made.....	5 Illustrations.....	232
Eggs—Value for Food—Preserving.....		246
England—Imports of in Three Months.....		237
Exhibitions—Agricultural in 1861.....		251
Eyes—Care of.....		245
Farm Work in August.....		226
Flax Cotton Premiums.....		251
Flower Garden and Lawn in August.....		227
Flowers—Exhibition of Brooklyn Horticultural Soc.....		245
Flowers—New Chrysanthemums.....	3 Illustrations.....	244
Flowers—The Petunia.....		244
Flowers—Wintering Carnations.....		244
Fruit—Save it.....		245
Garden—How to Show, and How to View.....		243
Garden—Kitchen and Fruit in August.....		227
Grapes—Training.....	Illustrated.....	228
Green and Hot-Houses in August.....		228
Horse Power—Sanford's Improved.....	2 Illustrations.....	237
Horse—To Hold Hard-headed.....		238
Horses—Why they Kick—Rarey's method of Cure.....		236
Hydraulic Ram—Notes on.....		236
Insects—The New Insect on Rye.....		235
Lambs—What ails them?.....		239
Manure—Muck, Value of.....		234
Manure—Something better than Guano.....		235
Manure used on Long Island.....		235
Market Review. Weather Notes, etc.....		251
Neatness and Health—Playing in the Dirt.....		246
Newspapers and Periodicals in the U. S.....		250
Orchard and Nursery in August.....		226
Peas—Notes on Early.....		245
Potatoes—Deep and Late Planting—Large Yield.....		236
Poultry—To Prevent Hens eating Eggs.....		239
Prizes—\$240 Offered for Practical Articles.....		231
Prospects for Farmers.....		230
Recipes—Blackberry Wine, Currant Wine—To Preserve Currants—Pickling Ripe Cucumbers—Cucumber Catchup—Strawberry Short Cake—Nice Pop-Overs—Delicate or Silver Cake—Rooster Cake—To Keep Old Cheese.....		247
Seed—Apparatus for Sowing.....	Illustrated.....	239
Sheep—Scab in—Remedy for.....		239
Shrub—Manzanito.....		242
Strawberries—A new Patch.....		242
Strawberries—Notes on.....		243
Strawberries—You must Have them.....		241
Tim Bunker on Top-dressing and Feeding Aftermath.....		243
Transplanting and Shading.....		243
Trees—Fruit, Trimming up.....		245
Trees—Model.....	4 Illustrations.....	240
Trees—The Best Elm.....		241
Vermont—Live Stock from.....		239
World's Fair in 1862—Commissioner to.....		236

INDEX to "BASKET" ITEMS.

Alsike or Swedish Clover.....	230
Bee Poison in Buckwheat.....	230
Bees—Absconding.....	229
Book—Singing for Children.....	230
Broom Corn—Dwarf in Ohio.....	229
Cattle—American, Good Prices for.....	228
Celery—Blanching with Sawdust.....	229
Chicago Grain Market—Immense Receipts.....	230
Chimneys—Cement Pipe.....	230
Clothes Wringer—Recommendation of.....	228
Draining—Siphon.....	258
Drains—Tile—Choking—Wood.....	228
Flowers—Monster Arum—Escholtzia Perennial—Maurandia Barclayana—Dicentra Cucullaria—Cobaea Scandens—Pot Roses and Acacias in Borders—Tea Roses not Hardy.....	229
Flowers—Tulips from Seed—Wild from California—Acrolinium Roseum—Collinsia Bi-color—Convolvulus Tri-color—Tufted Veitch.....	230
Fruit—To Grow Large.....	230
Gardeners—Lady.....	229
Grapes—Wild—Market for.....	229
Horse—That Mammoth.....	229
Horses—Feed for.....	228
Horses—Origin of Morgan.....	230
Insects—Hornets and Wasps Serviceable.....	230
Insects—Squash Vine Borer—Wire Worms.....	219
Manure—Hair for.....	230
Milk—First Flow Poisonous.....	230
Milking Machines Injurious.....	230
Miller's Bolt—Cleaning.....	228
Muskmelons—Cracking.....	229
Nails—To Make Weather-proof.....	230
Parsneps—Wild and Cultivated.....	228
Poultry—Gapes in Chickens.....	229
Rats, Mice, Squirrels, Gophers, etc.....	229
Schools—Two Good.....	228
Strawberries—A Good Picking.....	229
Strawberries and Blackberries.....	228
Strawberries on an Acre.....	228
Swine—Kidney Worms in.....	229
Trees—Low Branching for Prairies.....	230
Tea—New Tax on.....	230
Vermont Farmers.....	229
Wheat—Salt on—Separating from Chess.....	230

Publisher's Notices.

To Subscribers in Great Britain.

We have an increasing list of subscribers to the *American Agriculturist*, in England, Scotland, Ireland, and Wales, and to accommodate such we will answer that hereafter subscriptions for all parts of Great Britain may be sent to JOHN G. WAITE, *Seedsman*, 181 High Holborn, London, which will save the trouble and expense of remitting single names across the ocean. Terms, to subscribers in all parts of Great Britain, *five shillings, sterling* per year, which covers ocean postage to be prepaid here. The papers will be mailed direct to the Post Office address of each individual.

EXTRA BOOK PREMIUMS.

[For other Business Items, see page 252—For valuable Seed Premiums, etc., see page 255—For Standing Premiums, see page 218, July No.]

Our "Extraordinary Premiums" closed July 1st, but owing to depression in the book business, we have been able to secure a few valuable works at such prices, that we can offer them, for the time being, on the terms named below. (N. B. Two new subscribers for half a year, say from July to December, inclusive, at 50 cents each, may be counted as one new subscriber at \$1.)

This is an excellent opportunity for all to secure good books at a very trifling outlay of time and effort.

All the books here offered, will be delivered to the recipient free of all charges. We shall send them paid through, by express, or mail, as may be most economical for us in each case.

For One New Subscriber at \$1,

The sender will receive a post-paid copy of a capital work on **Onion Culture** (2nd Edition), which contains essays by 17 experienced onion growers, residing in different parts of the country—each one of whom gives full, plain, practical directions, from procuring seed to storing and marketing the crop, and raising seed again; Or A copy of that interesting little work entitled

"OUR FARM OF FOUR ACRES."

Or American Bird Fancier.
Or American Kitchen Gardener.
Or Bement's Rabbit Fancier.
Or Domestic Fowls.
Or Skillful Housewife.

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or Youatt & Martin on the Hog, price 75 cents;
or Youatt & Martin on the Sheep, price 75 cents;
or Allen's Diseases of Domestic Animals, 75 cents.
or American Florist's Guide, 75 cents;
or Bridgeman's Kitchen Gardener's Instructor, 60 cts.

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Allen on the Culture of the Grape.....\$1 00
French's Farm Drainage.....\$1 00
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Or, Herbert Spencer's important new work on the physical, moral, and intellectual care and training of Children. (Price \$1.) Every Parent and Teacher should have it.

For Five New Subscribers at \$1 each,

Downing's *Fruits and Fruit Trees of America*, (new Edition,) the best standard work, which gives directions for culture, with accurate descriptions of the various fruits, and a multitude of illustrations, (760 pages.) Price \$1 75.
Or, The Shepherd's Own Book.....Price, \$2 00.

The Hydropult as a Premium.

For 16 New Subscribers at \$1 each, we will present that excellent, new implement, the **Hydropult**, which is very useful for throwing water to extinguish fires, water gardens, wash windows, carriages, etc. (See page 91, March No.) Price \$12. It weighs but 8 lbs., can be packed in small compass, and go by express at little expense.

Extra for August.

To meet a very general want, especially in parts of the country remote from Nurseries and Commercial Gardens, we have made arrangements to send out as **SPECIAL PREMIUMS**, parcels of the

BEST STRAWBERRY PLANTS, FREE BY MAIL.

The Plants will be of *first quality*, the **very best** that can be obtained (including all we can spare from our own grounds). They will be packed in the *best possible manner*—in oiled silk, or wooden boxes, or tin cases, according to their destination—and will be sent paid through by Mail or Express. They will be forwarded at the earliest date in September when the weather will allow of their going to the different points to which they are to be sent.—(It will be our pleasure, as well as our interest to send them in such a way as to give entire satisfaction). The Premium is designed more especially for the remoter regions of the country, but is not limited to any particular section. (Persons living on the Pacific Coast, in Utah, New Mexico, and at other distant points who may chance to send in too late for the plants to go, this year, can have them forwarded at the earliest practicable date in the Spring.)

Conditions of the Premiums.

I. To any person now forwarding *One New Subscriber* to the *American Agriculturist*, at \$1 a year (to begin in Jan. 1st, or July 1st, 1861) we will present **One Dozen Plants of Triomphe de Gand Strawberry**, to be forwarded free as above stated. This variety we think the best, but when preferred, we will send instead, a dozen plants of the *Wilson's Albany*,

OR

II. To any person now forwarding two (or more than two) *New Subscribers* to the *American Agriculturist*, at \$1 a year, (to begin Jan. 1st or July 1st, 1861) we will present for each name, **Fifteen Plants of the Triomphe de Gand Strawberry**, (or the *Wilson*, if preferred) to be forwarded free as above.

N. B.—Where there are two or more subscribers, the premium may be part *Triomphe de Gand*, and part *Wilson*; and for premium of four or more to be sent in one parcel, we will add a few plants of one or more other good varieties from our own garden.

N. B.—The names to be sent in as soon as obtained, and the premiums will be entered to be forwarded at the appropriate season, as stated above.

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, &c., &c., and to HOUSEHOLD LABORS. It has also an interesting and instructive department for CHILDREN and YOUTH.

A full CALENDAR OF OPERATIONS every month. THREE to FOUR HUNDRED, or more, illustrative ENGRAVINGS appear in each volume.

Over SIX HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL WORKING MEN.

The teachings of the AGRICULTURIST are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, for the whole AMERICAN CONTINENT.

A German edition is published, of the same size and price as the English, and containing all of its reading matter, and its numerous illustrative engravings.

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Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid in advance at the office where received.

All business and other communications should be addressed to the Editor and Proprietor.

ORANGE JUDD, 41 Park-Row, New York City.

FROM THE STEAM PRESS OF JOHN A. GRAY.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

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Contents, Terms, &c., on pp. 285-38.

Entered according to act of Congress in the year 1861, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. **N. B.**—Every Journal is invited freely to copy any desirable articles, if each article or illustration copied, be duly accredited to the *American Agriculturist*.

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



September.

"While he from all the stormy passions free
That restless men involve, hears, and but hears
At distance safe, the human tempest roar,
Wrapped close in conscious peace. The fall of kings,
The rage of nations, and the crush of States,
Move not the man, who, the world escaped,
Still retreats and flowery solitudes,
Nature's voice attends, from month to month,
And day to day, through the revolving year;
Admiring sees her in her every shape;
Feels all her sweet emotions at his heart;
Takes what she liberal gives, nor thinks of more.
When Autumn's yellow luster gilds the world,
And tempts the sickled swain into the field,
Seized by the general joy, his heart distends
With gentle throes; and through the tepid gleams
Deep nursing, then he best exerts his song."

THOMSON.

The burning heats of Summer are giving place to the cool bracing air of Autumn. The summer harvests are gathered, the barns are full of hay and grain, and the overflowing abundance stands in stacks and ricks, upon the meadow. The hard pressing work of the season is over, and we begin to take things a little leisurely. The corn has attained its growth, and the kernels are beginning to glaze. The po-

tatoes, if full grown, keep safely in the hill. The apples are turning red and yellow upon the trees, and the lower bending of the limbs shows that every day is adding to the weight of fruit. There is rather gain than loss in delaying for a few days, the work that must be done. There is time now to attend to the little jobs that have had to lie over during Summer; to make fences, to ditch, and drain, to dig muck, and make compost—profitable work always on hand upon the farm. Those not driven by wheat sowing have time to review the season's toils, to project improvements, and to enjoy life.

There is perhaps no class in the community that suffer so little in the present troubled times, as the farmers. Outside of the immediate theater of the war, life moves on in its usual channels upon the farm. In all the cities the calamity is deeply felt. It has seriously interrupted business, and multitudes are thrown out of employment. There all the excitement, as well as "the pomp and circumstance of glorious war," is felt. But upon the farm, one would hardly know the convulsion through which the country is passing, but for the newspapers.

At all times the farmer's life flows more smoothly and peacefully, than that of other men. There is in it more of solid comfort. The scenes in which he mingles, and the objects of his daily contemplation, are calculated to make him cheerful and happy. Nature in all its freshness and beauty is ever spread out before him. It is not his genteel boast that he never sees the sun rise! The morning's prime is not to him a vulgar hour. He is up with the lark, and hears that choral song at early dawn, with which the birds begin their day. He beholds the first streak of light, and the heavens passing through all the changes of color—sober grey, purple, sapphire, crimson, to the full effulgence of the risen sun. There is joy in beholding these scenes, with every sense fresh from invigorating sleep.

The husbandman is much more independent in his circumstances than other men. Very generally, in this country at least, he owns the soil he tills, in fee simple. The roof that shelters his family, the barn that protects his crops and cattle, the acres that yield them sustenance, are his for a possession. He is made as secure in the enjoyment of his home, as it is possible for mortals to be. No landlord may turn him out at the close of the year. Every improvement made upon his premises, is for his benefit, and that of his family. There is joy in ownership, in the soil, somewhat difficult to analyze, but a reality, as all know who have experienced it. The affections cling to it quite as tenaciously as to living things. With many, local attachments are much stronger than the love of animals. They can substitute one horse for another, or one cow for another, without any painful emotion, but the disruption of home ties would be felt as a life-long calamity. There is

literally no spot like home to them. Their affections take root in the soil of their birth place, with every orchard they plant, with every ornamental tree they set by the road side. The home feeling grows with every crop they cultivate, with every fence they put up, and with every building they erect.

Here they are in a good measure independent of the world. The farm yields them almost every necessity of life, with a superabundance to exchange for its superfluities. This was more the ease in the good old days of homespun, than at present, and if necessity ever requires it, we can go back again to the cards and the spinning wheel, to the hand shuttle and the loom. It adds not a little to the comfort of life, to know that our daily bread does not depend upon the caprice or necessities of an employer. No change in the times deprives the farmer of occupation. His work is laid out before him for years, and he knows that as long as the soil yields its increase, and he can work, there will be meal in his bin, corn in his crib, and pork in his barrel. His sheep will raise wool, and his meadows flax, whether cotton is king or not. The doors of the school-house will be open for his children, whether the temple of Janus is closed or open. The cities may be swept by the desolations of war, but the farms can hardly be ruined. The world must eat, and while wheat and corn grow, and calves and pigs make beef and pork, he will have something to sell, and a market for his products. It is one of the misfortunes of most other callings, that they are dependent for the necessities of existence. The laborer has nothing but labor to sell, and when that fails his condition is very sad.

It is another of the comforts of the farmer's calling, that his labors are lighter than those of most other men. His work is not nearly as exhausting to body and mind, as that of the merchant, or of people who follow trades; the greater strength and vigor, and the better health of farmers, as a class, are proof positive. They have wholesome food, fresh milk and butter, fresh meats and vegetables, and eggs laid in the nest and upon the table the same day. They pursue their toils in the open air, and for the most part with only such a tax upon the muscles as aids digestion. There is no overworking of the brain, no wearing anxiety about the uncertainty of trade, no bank-notes to meet at two o'clock, or be bankrupt in fortune. His bank of earth receives all his deposits, and is always ready to pay dividends. Look at that bin of corn, yellow as gold, and always exchangeable for it. Look at those porkers with broad backs, and sleek sides, every one a walking money bag, and growing heavier every day. Look at those fat cattle, and that span of Black Hawks. There is a small mint in each of them, that keeps down all pecuniary solicitude—and makes the owner's life a scene of cheerful toil.

Calendar of Operations for Sept., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by allowing for latitude.]

Explanations.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*f*, or *mm*, or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

Much of next year's prosperity depends upon the agricultural operations of September. If the great staple, wheat, be sown early on properly prepared ground, millions of dollars will be gained above what would result from doing the work carelessly. See that every acre receive all possible attention.

Agricultural Exhibitions.—It will pay to attend them if practicable. A single suggestion received, or a new implement examined may be worth to you many dollars.

Buildings.—Provide sufficient shelter for all animals to be wintered. Repair and paint all needing it. Read "Sermon on Stables," page 267.

Beans.—Harvest, *m, l*. The haulm properly cured, and the beans themselves, are excellent for sheep.

Buckwheat.—Secure as soon as about ripe. Save straw for occasional feeding, but mainly for litter and manure.

Butter.—Lay down a full supply for Winter use. Work thoroughly, and pack in stone jars or sweet firkins.

Cabbages.—Market those mature; keep the late well hoed.

Cattle.—Stall feeding commenced early will give the best returns. Keep up the flow of milk from cows, with cuttings from the soiling patch and refuse from the garden, particularly if Fall feed be short.

Cellars.—Thoroughly cleanse and put in order for Fall crops of roots, apples, etc.

Corn.—Mark the earliest and most productive stalks to be gathered for seed. As soon as fully ripe, trace the ears together and hang them in a secure place. Cut the crop up by the ground before injured by frost, and set in well bound stooks, to be husked at leisure; this mode we consider preferable to topping the stalks.

Draining.—Finish off each field of winter grain with deep draining furrows to carry off surplus surface water. Lay drain tiles wherever needed, as fast as circumstances will allow. Read the articles on Draining closely.

Eggs.—Pack a sufficient supply for Winter use according to directions on page 246 (Aug. No.).

Fences and Gates.—Keep in thorough repair, and build new as needed. In springy ground, lay drains to prevent the posts from "heaving out" by frost. Char the ends of posts, or dip in coal tar, to preserve from rot.

Grain.—Thresh and store or market as soon as practicable. Protect bins from rats and mice. If infested with weevil, fumigate with sulphur. Keep a liberal supply for feeding upon the farm.

Hemp and Flax.—Pull, *m, l*, and spread for rotting.

Hogs.—Commence feeding grain early. Confine fattening hogs in separate pens. Read article on page 266.

Manure.—Make needed preparations to manufacture all possible the coming Winter.

Plow, *f*, for Winter grain if not finished. This is the best season to deepen the soil by turning up and exposing an inch or more of the subsoil to the action of frost.

Potatoes.—Dig as fast as wanted for market, and leave the remainder until threatened by frost. Clear the ground from tops and weeds as fast as dug.

Poultry.—Feed well to fatten for market or wintering.

Root Crops.—Continue to cultivate until well grown.

Rye.—Sow, *f, m*, if not completed. Seeds of weeds, chess, and much other foul stuff may be separated by pouring the grain into strong brine and skimming them off.

Sheep.—An occasional allowance of grain will prepare them for successful wintering. Supply regularly with salt.

Soiling Crops.—Cut and cure for fodder before frost.

Sorghum.—Commence manufacture of sugar and syrup, *l*. Read article on page 270.

Straw.—As fast as threshed, stack it or store under cover for feeding and litter.

Timothy.—Sow with winter grain for meadow or pasture.

Weeds from the potato field, etc., which have matured seed, should not be mixed with manure, except where the seeds may be destroyed by active fermentation.

Wheat.—Sow, or better, drill in, *f*, on well prepared

ground. Provide for surface drainage by ample furrows, on all undrained fields.

Orchard and Nursery.

Gathering and marketing early apples and pears, and late peaches, is about the only occupation in the orchard this month. Dry fruit which will not keep, or preserve in bottles, especially the soft pears and peaches. See illustration of drying frames on page 277. In marketing pears and peaches let them be sent to the seller before they soften, or they will bruise and look badly. Peaches, especially, should be quite hard when picked, if to be marketed at a distance. All kinds of fruit will appear much better and bring higher prices for being carefully picked. See apparatus illustrated on page 273. Avoid the practice of "topping off" with the finest fruit.

Every thing about the commercial nursery grounds should be put in readiness for beginning the Fall business next month. Young trees should be well tended, plowing between the rows frequently to loosen the soil and keep down weeds. Unless sufficiently trimmed, give them their last pruning early this month, to preserve low branching trunks.

Labels.—Provide early for Fall use.

Insects.—Wash trunks of trees infested by scale with lye or potash water or strong soapsuds. Dig out or kill borers in the trunks of apple or peach trees.

Pits of peaches, plums and other stone fruits, also seeds of apples, pears, etc., as soon as cleaned should be placed in earth, or planted where wanted. They often fail to germinate when allowed to become dry.

Preserve a good supply of the early perishing fruits, such as peaches, plums, and soft pears, as heretofore recommended in the *Agriculturist*.

Seeds of trees and shrubs should be gathered as they ripen. Most of them will vegetate better by keeping them in boxes of earth until sowing time next Spring.

Kitchen and Fruit Garden.

As fast as the various plots are cleared of produce, all weeds and refuse should be gathered for the compost heap, and the ground be replanted with crops for early Spring use, or dug over and left in tidy condition. Draining and trenching are now in order, and if properly attended to, they will greatly aid in forwarding next season's crop.

Beans.—Gather and shell as they ripen. Dry a good supply of unripe Limas for Winter use. String beans packed in salt will keep late in Winter; they are also excellent for pickling.

Blackberries.—Cut out old canes and weak young shoots; leave one or two of the best for the next fruiting.

Cabbage and Cauliflower.—Sow, *f, m*, for late transplanting to cold frames. Keep late plantings well hoed.

Celery.—Earth up in clear weather, and keep dirt from falling between the stalks.

Corn.—Keep the earliest and best for seed. Cure the stalks for feeding out.

Cucumbers.—Preserve the earliest and best for seed.

Grapes.—Pick as they ripen. Leave those to be packed for Winter use until frost approaches.

Hops.—Gather and dry, *f, m*, and house the poles.

Melons.—Save the best for seed. Lay boards under those ripening, and turn them occasionally.

Mushrooms.—Make beds, *m, l*, as directed on page 274.

Onions.—Pull and dry as they ripen. Sow seed, *f, m*, for early Spring use.

Parsley.—Sow, *f, m*, for use in Spring.

Raspberries.—Follow directions of last month. Collect and house stakes for use next year.

Seeds.—Gather best as they ripen, label and keep safe.

Spinage.—Sow, *f*, and thin out, *m, ll*, for Spring use.

Squashes.—Gather as they ripen, and save seeds of best.

Strawberries.—Transplant a good supply, *f, m*.

Tomatoes.—Preserve a full supply in bottles for Winter.

Turnips.—Keep well hoed and properly thinned.

Winter Cherries.—Gather as they ripen and preserve or pack them in cotton for Winter use.

Flower Garden and Lawn.

Many of the Summer plants are done flowering, and unless seeds are to be saved it is better to remove all the flower stalks. The ground can be filled with late bloomers, perennial seedlings, or Spring bulbs. It is important that no unoccupied spaces appear in the beds or borders.

House plants of tender sorts will need removing by the middle or end of the month. Everything should be in readiness as directed under Green and Hot-House.

Bulb Beds.—Make and plant these, *m, l*. Any good garden soil will answer for bulbs. If wet, drain it, or raise the beds. A little sand, muck, and cow manure, well worked into the soil, if compact, fits it to receive the plants. Lay out a bed in any desired form—an oval or circle is a good shape—set crown imperials, hyacinths and tulips in the center, planting 3 to 4 inches deep, and 9 inches apart. Finish with narcissus, crocuses, and snowdrops, setting these last 3 inches apart and 1½ inches below to the crowns. Of course the outer circle should be of the lowest growing varieties, and all should be arranged with reference to the different colors. If sand is easily obtained, place a handful around and over each bulb at the time of setting. In selecting from a collection, choose those which are bright and firm, in preference to any which have begun to grow.

Crysanthemums will soon begin to flower. Keep well tied up and cut out the weak shoots, leaving but few stalks in a place.

Cuttings of propagating plants should be made as soon as the wood is mature. Insert in a light soil with plenty of peat and sand worked in, and cover with a hot-bed sash. They will soon root and may be potted for Winter.

Evergreens may be set, *f, m*, if the ground is moist, but we prefer Spring planting.

Dahlias.—Keep well tied up. Cut off the withered blooms as soon as they fade.

Flower Pits and Houses.—Construct, *m, ll*, for safely keeping tender varieties over Winter. See page 272.

Hedges.—Shorten in the base, *ll*, and leave for Winter.

Lawn.—Keep from leaves, and scatter a little seed on bare spots. Sow Winter rye, on ground prepared for a lawn, but which is not to be seeded until Spring. A thick growth of rye will look very well during Winter.

Seeds.—Watch their ripening and collect before they are wasted on the ground. Mark each package with care. Mark with strings, the finest late blooms, the seed of which it is desirable to save.

Verbenas and Petunias layered last month, may now be divided and potted for Winter blooming.

Weeds.—Allow none to disfigure the ground or to sow seeds for a future crop.

Green and Hot-Houses.

One of the first things to be done is too see that the houses are prepared to receive their Winter stock. If new ones are to be built, let them be put up, *f, m*. See chapter on constructing houses page 272. Before the close of the month, many of the more tender plants will need bringing in. They should never be left out until chilled by cool weather. See that pots are clean and plants properly cut back and decayed leaves removed when set in Winter quarters. The houses should have abundance of air and sunlight for some time after being filled, or the change will affect the plants unfavorably. Collect a good stock of old turf, well rotted peat, sand, and manure for potting soil. Mix it early for it improves by age. Lay in a supply of pots of various sizes to be in readiness for shifting the plants.

Having cleansed and painted the houses, attended to the glazing, arranged the furnaces, and brought in the plants, setting them tastefully in their appropriate places, begin at once to increase the stock by putting in cuttings of the several varieties needed. Sow a few desirable annuals at the same time to increase the number of Winter plants. The Cape and other house bulbs should now be potted and arranged for growing. Some of the hardy Spring blooming sorts may also be potted, and set in a cool place to be brought forward as wanted.

Camellias should be repotted, *f*. They are now beginning to grow and require frequent waterings. It is not too late to bud and inarch.

Fire heat may occasionally be needed in some apartments, *m*, to *l*, to expel dampness and warm the air.

Grapes.—The treatment must be governed by the different stages of growth; give little water and abundance of air to those ripening, and frequent syringings to later sorts.

Potting.—Most of the plants will need repotting when brought in, although they have been growing in pots during the Summer. They will do better with a change of soil, and quite likely they require more room. All of the large number of house plants set in the borders in the Spring, are to be potted now. They should be shaded after the operation and watered freely. Many of the plants will be benefited by cutting back.

Apiary in September.

Prepared by M. Quinby—by request.

Immediately after the failure of honey in the flowers—which will be in September in most places, look out and remove all colonies too feeble to defend themselves. They

are quite sure to be robbed by stronger ones, which thus get a bad habit, and will be induced to attack others. Late swarms which are strong enough to winter, but lack honey, should not be fed this month—as many recommend—unless they can be fed sufficiently to construct comb in which to store it, and rear considerable brood. Next month, the brood will mature, and leave the cells, and give room for several pounds of honey.....When two or three feeble colonies stand near together, and contain bees enough for a good colony, they may be united for a winter stock, if fed properly. To prevent quarrelling, sprinkle with sugar water flavored with a few drops of peppermint, or other essence. Condemned colonies will have a little more honey if taken now, than if later; yet when all the brood is matured and out of the way, it will be nicer. Stocks in which much foul brood has appeared, should be removed at once. It will not do to wait for such to mature all their brood, as they continue to rear that till cold weather, and in the mean time may get robbed, which would infect other hives with the disease. When cells of honey and dead brood are mixed together in the same comb, it is best disposed of by burying—the honey is unfit for use, very little wax can be made from it, and the bees should not be allowed to take a particle. Stocks of any age may be attacked, and hence all should be examined where the disease is prevalent. When a stock is diseased just enough to condemn it, yet not sufficiently to prevent it from being wintered, it may be kept, but some hive containing combs and a small quantity of honey, should be provided to which to transfer in the Spring. Honey taken from such hives, when it can be cut out free from the mixture of brood, is suitable for the table; it may be eaten with no bad effects. The inferior pieces may be strained. By scalding thoroughly, and skimming, it may be fed to the bees with safety.



Into which are thrown various useful or interesting Items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Ask Questions—Send Items.—An unlimited number of suggestive questions are always welcome to the *Agriculturist* "Drawer;" and especially is this the case in regard to items of experience and observation that furnish information or hints to others. We by no means claim to have time, or room, or ability, to answer every query, but this journal is in one sense a great "manufacturing storehouse," for receiving and "working up" the experiences and suggestions gathered from every quarter.

The Crop Reports on page 284, with the Market Review on page 283, will be found interesting this month.

That Hint to Agricultural Societies.—It may be well to remind the managers of Agricultural Societies of what was done by the Ozaukee County Society (Wis.), last Autumn. They subscribed for 100 copies of the *Agriculturist* at full rates, to be distributed as premiums to exhibitors. They of course received our premium of a Wheeler & Wilson Sewing Machine, which was exhibited and kept in operation at the fair, and sold at auction at the close, for almost half of what they paid us for the subscribers. It is not too late for other Societies to do the same thing this Fall.

What Rockland County Farmers Did.—Last Fall they made up in one town a club of subscribers for 100 copies of the *Agriculturist*, each one pledging a dollar if needed. They sent on the names and money early (or one of the club did so), and received the premium Sewing Machine. The Machine was put up at auction and sold for \$41, which was deducted from the \$100 to be raised, so that they were only assessed 59 cents each for the year's subscription, and received the seeds extra. The same thing could be done in a thousand places this year. Extra copies to all new names coming in this month. See pages 282 and 288.

"Noticing" Advertisements.—A manufacturer writes that if we will give him a "notice," he will send a long advertisement, and "pay for both it and the notice." Well, friend, we don't sell "notices." If your advertisement is not a deceptive one, nor otherwise objectionable, it will be inserted at the regular price. If the interests of our readers seem to demand a "notice," and it is convenient, we may give one, but it must be just as we think. A firm sent us a barrel of a new kind of potatoes asking us to "try and report by notice." We did so, and they have never forgiven us. We are sorry, but we did just as they requested. They certainly could not expect that a barrel of potatoes would buy a favorable report if the facts did not warrant it.

New Agr. Supt. of the Patent Office.—We learn by telegraph from Washington, that Dr. Locke has just been appointed Paymaster in the Army, and that Mr. Isaac Newton, of Delaware Co., Pa., has been appointed to the superintendency of the Agricultural Division of the Patent Office. We are sorry to lose Dr. L., as from a recent visit to the Department at Washington, we had come to hope for a decided improvement over the old regime. But for aught we know, Mr. Newton may be the right man in the right place. He has a fine field open before him.

Flax Cotton—\$500 Premium.—We announced last month, page 251, a premium of \$30 offered by the Rhode Island Society for the Encouragement of Domestic Industry, for a bale of the best prepared Flax Cotton, not less than 50 lbs. We are glad to learn that some public spirited persons placed funds at the disposal of the Society, so that the offer is now increased to \$500 instead of \$30. The offer is not confined to the State. The Exhibition is to take place at Providence, Sept. 11. Further information may be had by addressing the Secretary of the Society, W. R. Staples, Providence.

Sowing Grass Seed Thickly.—An aged farmer of Pennsylvania, in a letter to the *American Agriculturist*, says: ".....After nearly fifty years of experience and observation, among my neighbors and elsewhere, I am convinced that too little grass seed is sown. Here I see a field with only half plants enough growing; would not a double quantity of seed have filled up the gaps? The cost of the seed was 60 cents per acre. Another 60 cents worth of seed would have made this year's mowing and pasturage worth \$12 an acre, while it is now worth only \$6. I never saw grass too thick; but I have seen it too thin on hundreds of fields....Formerly I sowed 4 quarts of clover seed and 8 quarts of timothy seed to the acre; now I never sow less than 8 or 10 quarts of clover, and 14 to 18 quarts of timothy, and since doing this I have had no failure, but generally a heavy mat of fine grass...."

Sweet Scented Clover (*Melilotus alba*).—James Wolverton, of Schuylar Co., N. Y., sent us last Spring some seed which he called "California Clover Seed, considered quite a novelty." On growing, it proves to be the *Melilotus alba*, or sweet scented clover. It is very common in Europe, and in many parts of this country. The seed is kept at all large seed stores. It grows 4 to 5 feet high, very branching, perennial, and is sometimes used for fodder when small. It yields a fragrant odor long after drying. The seed is used in Switzerland for flavoring cheese.

Size of a Bushel Box.—An Oregon subscriber of the *Agriculturist* asks how to get up a bushel measure. If he can not buy a cheap, correct bushel measure, he can easily make a bushel or half bushel box. Our standard bushel contains 2150½ cubic inches, (or to be very accurate 2150, 42-100th inches). Make the box so that its three dimensions in inches, multiplied together, shall just equal 2150½. Thus if it be 10 inches square it will need to be 21½ inches high. If a foot square, then very nearly 15 inches high (accurately 14.934-1000 inches). A convenient half bushel box is one a foot square and 7½ inches high. A bushel lacks only 10 cubic inches, or one-third of a gill, of being 1½ cubic feet. (The above is the old Winchester bushel, the standard in this country. The present Imperial bushel of Great Britain contains 2218 1-5 inches, or accurately 2218 192-1000th inches; and 33 of our bushels equal 32 Imperial bushels.)

Measuring Unshelled Corn in the Crib.—Allowing the old rule of two bushels of ears for one of shelled corn, multiply together the length, breadth, and height of the corn in feet. Multiply this by 2 and divide it by 5, for the bushels of shelled corn; or what is the same thing, multiply by 4 and cut off the right hand figure. *Example.*—A bin is 4 feet wide, 5 feet high, and 15 feet long. These multiplied together give 300 feet. Multiplying by 4 gives 1200 feet; and cutting off the right hand figure leaves 120 bushels of shelled corn, or 240 bushels of ears. This last is within one bushel of the exact grain measure, which is 241 bushels.

"Raw Bone Superphosphate."—Our readers are doubtless aware that while we have attached little value to superphosphate as commonly made, (of burned or sugar house bones) we have always regarded a solution of raw bones in sulphuric acid, as useful for most if not for all crops. We are glad to see an article thus made advertised in this paper, by Messrs. Lister & Brother, and also by Messrs. Baugh & Son. Those who have to buy fertilizers of any kind, may do well to experiment with it upon their Winter grain.

Spontaneous Combustion in a Hay Mow.—Chas. W. Haight, Westchester Co., N. Y. We have heard of such an occurrence, but have never known of a well authenticated case. A cloth dipped in oil and left to heat will sometimes take fire; so will oil and shavings;

and oil spilled on hay or straw might produce a fire; but simple moisture we think would fail to do so.

The Great Sale of Hereford Cattle.—The large stock of Hereford Cattle bred by the late Lord Berwick, numbering about 300 head, will be sold at auction on the 17th and 18th of September, at Cronkhill, near Shrewsbury, England.

The Oldest Horse on Record.—Wilkes' Spirit of the Times speaks of a small black Galloway horse 11 hands high which died in 1789, near Haddonfield, Scotland, at the advanced age of sixty nine years. Only a few weeks before his death he trotted for several hours, at the rate of 7 or 8 miles per hour.

Tomato Wine.—Miles Barnes, Clinton Co., Pa.—We have had no experience in making wine from tomato juice, but should proceed as directed for blackberries on page 247 (August No.). One item, however, should be added to that recipe; after the fermentation has ceased, cork the jugs or bottles tightly.

Transplanting Budded Trees.—These should not be set out until the new bud has made at least one year's growth. A few may live if transplanted in the Fall or succeeding Spring, after budding; but more will die, or make but a weak growth at best.

Coal Ashes—Borers—Cranberries, etc.—Jas. Slaven, Morgan Co., Mo. Notes on all these subjects containing the information asked for, have been given in the former numbers of the present year; and we can not so soon repeat them.

Russia Bass Matting.—Bass mattings as explained on page 135, May No., is the inner bark of the Linden or Basswood tree, and is very convenient for tying up vines and plants, as it is strong and yet so soft as not to cut into the plants like round hard twine. It comes in the form of mats to be pulled in pieces for use, and is largely employed by nurserymen in budding young trees. The Russia mats advertised on another page, by D. W. Manwaring, are excellent, as we have proved.

Tar Water for the Onion Maggot.—A writer in the New-Hampshire Journal of Agriculture says he has found tar water a sure remedy for the Onion maggot. (*Anthomyia ceparum*). The mixture should be strong, and applied to the rows night and morning a few times, or until the maggots leave.

Copperas as a Disinfectant.—"Old Subscriber," Reading, Mass. A strong solution of copperas in water, say a pound to three gallons of water, will generally remove offensive odors from a sink or privy.

Mercurial Barometer.—We have received samples of the Mercurial Barometers made by Chas. Wilde. (advertised in this paper). They are well made, strong, and appear to be really fine instruments.

Condensed Coffee.—Gail Borden, in addition to his condensed meat and condensed milk, which are now extensively used, has commenced the manufacture of a condensed preparation of coffee, with milk and sugar added, so that it is only necessary to stir a teaspoonful of it in a cup of hot water, to produce an excellent dish of coffee. He intends to continue experimenting until a cup of tea or chocolate can be made in the same manner.

Evaporator's for Chinese Sugar Cane.—To several inquirers. From what we have seen, and from all we can learn, we think Cook's Portable Sugar Evaporator is an excellent apparatus for boiling down not only cane juice but Maple sap. The card of the manufacturers will be found in our advertising columns.

An English Farmer's Prescription.—Feed the land before it is hungry; rest it before it is weary; and weed it before it is foul.

Value of Land near London.—We notice the recent sale of a plot of 163½ acres of land in the P of Kingston, some 20 miles from London. It is described as "lying in a ring fence, tithe free, and land tax redeemed"—that is, it is surrounded by an outside fence instead of a hedge; is not subject to the church tax of a tenth; and the annual taxes are commuted for by a certain sum paid in advance. The purchaser, John G. Waite, the well known Seedsman, of 181 High Holborn, London, paid \$75,000 for it, or about \$460 an acre in July last, and was soon after offered an advance of one third. We are glad to hear of the success of our friend Waite, who by the way, is the agent and representative of the *Agriculturist*, in Great Britain.

The "Return Table Apple Parer" is a new invention which we have tried, and find to be fully equal to any thing we have previously had in use. It costs 75 Cents or \$7.50 per dozen; will probably be advertised.

Hog Cholera.—We have received a treatise read before the Rhode Island Medical Society, in which the author, Edwin M. Snow, M. D., gives the result of careful post mortem examinations and other information gathered from a study of the matter. He decides it to be of an epidemic nature, depending upon some unknown cause in the atmosphere, which becomes active in inducing the disease when animals are found in the right conditions to receive it. These conditions he names as impure air arising from filth, and particularly from crowded pens, combined with unhealthy food and the want of pure water: all of which may easily be remedied, and the animals thus be kept from taking the infection. He thinks that no treatment is of any value, when a hog is attacked. Prevention alone is recommended. He also advances the opinion that "pleuro pneumonia" in cattle is of the same nature, if not the same disease, varied by the nature of the animal affected.

Water of Boiled Potatoes for Hogs.—Wisconsin Subscriber. We do not think there is much foundation for the very common belief that the water in which potatoes are boiled is injurious to animals; but unless the potatoes are boiled so as to mash, or break open the skins, the cooking water will contain little or no nourishment, and it is better to throw it away. If the skins burst open much, considerable starchy material will dissolve in the water, and it will then be worth using with other food.

Killing Toads and Bloody Milk.—What boy has not been told that if he throws stones at toads and frogs, the cows will give bloody milk? It will do no harm if all the boys in the land believe the story, unless it operates upon them generally as it did upon a boy about our own size and age, who had an undue share of curiosity in his composition. He would not have thought of hurting the toads, but for an irresistible desire to investigate the "scientific accuracy" of the report, and so he sometimes stoned the toads, in hopes of seeing how a painful of bloody milk would look.—The editor of the N. E. Farmer, makes a very neat response to an inquirer who asks his opinion. He says; "Yes—we believe in it, in this way—and in no other. Any person who will throw clubs and stones at toads, frogs, and other useful creatures, and wantonly murder them, will be quite likely so to abuse his cows as to make them give bloody milk."—So thinks the *American Agriculturist*.

Bees in War.—A good story is told of the attack of a band of Indians during the Revolutionary war, upon a block house on the Mohawk river, N. Y., occupied by a farmer, his wife, and two boys. The house was strong and could not be easily entered. The wife and boys loaded the rifle and two shot guns, and the man killed several Indians, but finally had his arm broken by a ball through the port hole. The boys kept firing the guns as fast as they could, but the Indians went to a closed side of the house and commenced digging under the walls. A swarm of bees had been removed to the chamber for safety, and the mother took this hive to an upper window, and pitched it out, the bottom falling off, and letting the whole swarm out upon the marauders. Their stings were too much for the Indians, and believing from the continued firing that the house was still well occupied, they took to their heels.

Selecting Seed Corn.—Henry Gaylord, Cheshire Co., Conn., inquires whether the upper or lower ear of a stalk bearing two equal ears, would be most likely to give the best produce. The upper ear is usually the best developed, and we should therefore generally prefer it. Has any *Agriculturist* reader experimented in the matter?

Spring Wheat.—A sample of very fine Spring wheat, called the "Mammoth Long Bearded," has been shown us by Thos. Carpenter, of Westchester Co., N. Y. The heads are 5 and 6 inches long, well filled with a large plump berry. It was sown early in May, and promises to yield 25 to 30 bushels per acre.

Wheat from Illinois.—Nameless variety received last Spring from J. M. Jackson, Winnebago Co. Seed rather shrunken. Sown April 15, on good warm soil; harvested July 30. Yield small; it was too dry to allow of tillering much, if indeed any Winter wheat sown in Spring, will tiller well. The crop is of better quality, than the seed. The kernel resembles the Red Mediterranean, if it be not the same. The beard was spotted, like mildew, and not blue or black as described by Mr. Jackson.

Irish Oats.—Seed from J. Headings, Lawrence Co., Pa., said to weigh 45 lbs. to bushel, and yield 50 to 60 bushels to acre, and to require poor soil to prevent lodging. The small parcel received did not produce enough to try the weight of a bushel. Sown April 15; grew four feet high with strong stalks, and large heavy heads. Ripe July 28. Kernels large and heavy. Promises well.

Early Potatoes.—Early Sovereign Potatoes,

are on our Exhibition Table which were dug the last of June, from potatoes planted April 27.

Peas from Michigan.—Two parcels from H. B. Hubbard, Saginaw Co., Mich. Planted April 15; cooked July 22. Resemble the old Marrowfat we used to grow at the West; haulm 4 feet high; yield freely; flavor above medium, preferable to the "Great Eastern," with which they were compared.

The Largest Apple Tree in America (?)—A correspondent of the Louisville Journal, claims that the largest apple-tree in America is growing upon the farm of Thomas K. Adams, in Rockcastle Co., Ky. It was planted in the year 1860 by Wm. Canifax, and now measures 15 feet around the trunk above the ground, and at the height of four feet is 12 feet in circumference. It forks at the height of five feet, one branch measuring 7½ feet, and the other 5 feet, 5 inches in circumference. The branches are said to extend 65 feet each way from the trunk (?) "The fruit is of excellent quality, resembling the Queen Apple; it keeps well in Winter."—This is a pretty large statement, especially in regard to the diameter of the top—130 feet across, or 400 feet around it! though we are not prepared to question its accuracy. There are plenty of apple trees much older than 61 years. If any one knows of a larger tree, or one almost as large, will he please send the accurate figures to the *American Agriculturist*, to be recorded?

Low Branching Apple Trees.—J. T. Moxley, Sheboygan Co., Wis., says the best trees in his orchard, branch at the ground. He raised the trees from seed and afterwards grafted them. He proposes to start a nursery, by planting the trees as far apart as hills of corn, allowing them to branch near the ground. This will take a large amount of room. It will answer very well to set them in rows 4 feet apart, and 1½ to 2 feet from each other in the row.

Early Decay of Apple Trees.—J. W. Freley, Windsor Co., Vt. The black spots on the bark of your young trees, mostly on the south side, were probably caused by the freezing and thawing of the sap, which ruptured the sap vessels. A warm spell in Winter starts the sap on the sunny side, and a sudden severe freezing, aided somewhat by a hot sun in the Summer, does the mischief. The remedy is, to let the trees branch low as a partial protection. Another plan is to bind the trunks with cloth or even a few thicknesses of strong paper, during the freezing season.

Manzanito Shrub.—Mr. H. S. Senter, of Mercer Co., Ill., who has had ample facilities for observing this shrub near the head waters of the American River, Deer Creek, the forks of the Yuba River, and the Feather River, California, confirms Mrs. Bowman's statement in the *August Agriculturist*, page 241, with the exception that he found it in all the above localities, and almost on the summit of the Sierra Nevada mountains, among lofty trees, and on good soil as well as on the scrubby pine slopes. He thinks it must be hardy, and if our nurserymen had it for sale, many returned Californians at least would early secure one. The beautiful red berries are eaten by whites as well as Indians. We shall be glad to receive seeds from some of our California readers.

Cutting Timber.—The Maine Farmer says, better pay one-half more to have timber cut in Summer than in Winter. The editor states that he has rails on his fences which were split a few years ago. Those cut late in Winter, or Spring, have become nearly worthless by decay, while those cut in mid-summer, dried thoroughly, and are hard and sound. (See article on page 270 of this paper.)

Grapes in Dwellings.—D. D. Cotto, Montgomery Co., O. Foreign grapes will not succeed well in the dry atmosphere of a living-room, unless the foliage be often cleansed and sprinkled. Grape leaves delight in an abundance of moisture from dews and rains. This is supplied in a grape house by syringing and sprinkling the floors, exposing water in tanks or evaporating pans, etc.

How far apart to Plant Grapes.—P. P. Wiggins, Kendall Co., Ill. Cultivators are not agreed upon this point. We would advise planting Concord, Isabella, and other strong growers, 8 feet apart if to be trained as you propose, upon the renewal system, from horizontal laterals as shown on page 241, *August Agriculturist*. This will give two bearing and two new shoots, one foot apart, on each side of the main stem.

Large Grape Leaf.—Rev. C. A. Hay, Dauphin Co., Pa., sends to the *Agriculturist* office a leaf of the Oporto grape vine, 16½ inches wide and 18 inches long. It grew in the open ground.

Refuse Lime from Kilns—Strawberries.—T. J. Naphens, Tippecanoe Co., Ind. The refuse lime from a kiln—the air-slaked we suppose you mean—has con-

siderable value, though not equal to fresh, water-slaked unless there are ashes enough to make it as good or better. On your six inches of black loam it will doubtless be useful in preparing it for strawberries, especially as there is yellow clay subsoil, which should be loosened a foot or more deep and a little of it mixed with the surface soil, if the latter be light. The amount of lime must depend upon the damp or sour character of the surface soil, and the poisonous character of the yellow earth below. Autumn is the very best time to subsoil; the frosts of Winter will then benefit the loosened soil.

Late Strawberries.—Subsequent to our note last month, we saw a lot of the Austin Seedling in market July 22, long after all other sorts had disappeared.

Everbearing Raspberries.—Amos Heater, Mason Co., Ill. Many of the so-called "everbearing" raspberry plants, are almost never bearing—at least they yield too little fruit to be of much value. We prefer a full crop of any fruit in its season, to a few late dribblings.

Wild Fruits in Iowa.—J. W. Smith, M. D., Floyd Co., Iowa, sends to the *American Agriculturist*, specimens of wild currants. They are common in parts of N. England, and are not considered valuable. He says that wild gooseberries, plums, crab apples, black and red raspberries abound, from which he very properly concludes that cultivated fruit will succeed in that locality.

Cahoon's Elmbarb.—D. Smith, Bristol Co., Mass. This variety is of mammoth size, but is devoid of the fine flavor found in the Linnaeus. It is at best only adapted for wine making. The Illinois State Horticultural Society, within whose limits it originated, have most emphatically declared it "worthless."

Helichrysum, or Fadeless Flower.—Among a choice collection of seeds presented to us last Spring by Mr. H. B. Lum, of Sandusky, Ohio, was a package of *Helichrysum*, mixed varieties. It is called *Immortelles* in France, and the Golden Sun, or Straw Flower (*Stroblume*) in Germany. The flowers cut when in full bloom, retain their form and color for years, closing in damp and opening in dry weather. Worked in wreaths and placed upon graves, they present a beautiful show in the dead of Winter. They are used very generally for this purpose in Europe, and we have seen a few of them in Greenwood Cemetery. They are also beautiful in permanent wreaths and bouquets for the house. This plant is of very easy culture, and should be much more widely introduced.

Lupinus Nanus.—A beautiful wild flower from California. Seed received from Wm. L. Dunkun, Yula Co. A choice annual, of dwarf habit; spikes of azure blue flowers, tinged with white; leaves like the wild lupine, a little hairy; stem branching, 16 to 18 inches high. Our seed sown April 10, was in bloom July 16. Mr. D. says it grows best on high land. It produces with us a succession of abundant flowers. The comparative scarcity of fine blue flowers, as well as the intrinsic beauty of this plant, makes it a valuable addition to the garden. We would be glad to obtain a supply of seed for distribution.

Poppy—Pink—Commelyna (celest).—Seeds of each received from J. S. Whitlock, Washtenaw Co., Mich. The poppy (*Papaver Somniferum*) proved very fine and double, but was not fringed as described.—The Pink (*Dianthus carthusianorum*) resembled the Chinese pink (*Dianthus Chinensis*), but with colors less variegated. The *Commelyna celeste* seed we are sorry to say did not grow; from the description it must be desirable, as are all long blooming blue flowers.

Soap Weed (?)—From Yula County, Cal., Mr. Wm. L. Dunkun, sends us some seeds of new plants, including one called there the "Soap Weed" which grows spontaneously in every variety of soil and location. It is a bulbous plant, and appears to be biennial or perennial. Not having flowered with us as yet, we can not classify or name it, and can find no description in botanical works which corresponds to it. The root is like the wild onion and the leaf resembles the small leaved Iris. Mr. D. says it is held in repute as an excellent remedy for "Poison Oak," and all eruptions of the skin, and particularly for inflamed eyes. The root is bruised, then stirred with a little water until it forms a lather very like soap suds. This is used as a wash for the afflicted skin or eyes. Can Prof. Thurber, of Mich. Agr. College, name this plant for us? It appears to be an entirely new plant, not yet known to the Botanical or Medical world.

Successful Draining.—James V. Edelen sends a detailed account for which we have not room, of the successful draining of a swamp, with ditches partly filled with cord-wood, covered with coarse hay, sods, and earth. He says the work was undertaken in consequence of articles on the subject in the *American Agriculturist*.

Free Seeds for 1862 — An Unusually Large Distribution.

We take great pleasure in announcing, at this early day, that owing to several favoring circumstances, we shall be able to present to our readers the coming Winter, a large assortment of Field, Garden, and Flower Seeds, both of standard and new varieties, and *in much larger parcels than ever before*. The new postage law will greatly facilitate the forwarding of seeds at a cheap rate, to all parts of the country. Last Winter the postage was 6 cents per ounce, or 36 cents per pound, on the shortest routes; now it is but 1 cent per ounce, or 16 cents per pound. Then it cost 20 cents an ounce, or \$3.20 a pound! both to the Pacific Coast and to the British Provinces; now it costs but 2 cents per ounce, or 32 cents for a full pound, to the Pacific, and but half of these rates to the Canadas. This will be a great saving of expense, and enable our distant readers to get large parcels of good and choice seeds at very little cost.

Again, we are ourselves growing a dozen times the quantity of seed this year that we have ever before been able to produce; while the good season in Europe, and the large production and less demand in this country (owing to loss of the usual Southern market), will enable us to purchase at wholesale, for the same money, much larger supplies than hitherto. We are therefore safe in promising to our readers a quantity of seeds for the next season, that will far surpass in value anything that we have been able to do in the past.

These seeds will, of course, be *free* to all our subscribers for the next volume. The list will be announced at the earliest date that we can get them collected—certainly by January, and we hope in December or November. Our facilities for collecting and distributing seeds are unsurpassed, and we shall be able to send out, as a gratuity, a quantity that will often be worth to the recipient one-fourth to one-half of his subscription, and not unfrequently worth more than the entire cost of the paper for a year.

Present Prospects of Farmers.

The transactions in the New-York Breadstuff Market, since the last *Agriculturist* went to press, and the latest news from Europe, are of the highest interest to farmers. The sales of flour, wheat, and corn, mainly for export, have been immense. During a single day (Aug. 15) the sales of flour and wheat in this city, alone, were equal to *half a million bushels of wheat!* The prices of wheat and flour have gone up *five to fifteen per cent* within two weeks! In our issues for months past, we have insisted that not only was there a large deficit in the last wheat crop of Great Britain, involving a heavy demand upon this country, but that the incoming crop must be short. It could not be otherwise, with the poor seed used, and the continuous rains all through the sowing season last Autumn. At the date of our last report, news of favorable weather had just arrived from Europe, and speculators had managed to inculcate the belief that the harvest would be good, and as a consequence of this belief, our markets sunk to a low point, for, with a surplus of grain here, the prices must necessarily be governed in a large measure, by the immediate or prospective foreign demand.

The positive advices received here since the

10th of August, settle the question beyond a doubt, that the crops just gathered, or being gathered, *have been short, both in Great Britain and France* and in some other countries of the Continent, and that large exports from this country will continue for another year, unless there should be an entirely unlooked for interruption of friendly relations.

From a careful survey of the numerous reports from all parts of our own wheat growing States, we conclude that, taken as a whole, the crop now gathered will be above an average one. This will afford a supply for home use, and a moderate surplus for export—not enough to overstock the market, or keep prices very low.

The war caused a depreciation in the Southern State Stocks, so largely used as bank securities at the West, and this, of course, depreciated the bank bills. The depreciation went so far as to nearly destroy the bank issues in all the States west of Indiana, except Iowa, and the result was, that for several months there was no money afloat, either to pay debts or to buy grain. Latterly, large amounts of gold have been forwarded from the East, which is beginning to find its way into the Western country. The constant demand for breadstuffs for Eastern consumption, and for export, will tend to greatly increase the circulation of gold and specie-paying bank bills among the masses at the West. The immense sums now being expended *at home* by our General Government, are beginning to set money afloat. The Treasury Notes, of which a million dollars a day are now provided for, and are being issued, will, during the continuance of the war, add greatly to the sound circulating currency of the country, and money will soon be plentiful, at least among those who produce the necessities of life—breadstuffs and meat. People must eat, and there are *about* as many mouths to be fed in war as in peace. Those who have crops to sell will therefore find a market for them; and as for breadstuffs, the foreign demand and the abundance of money, will keep the prices up to a paying figure, at least.

The expenses of the war are immense, but they are largely charged to the future, in the form of government loans, to be gradually liquidated over a long series of years; and, unlike all foreign wars, the money expended is not going out of the country. On the other hand, we are importing little foreign merchandise to be paid for, while we are constantly receiving large amounts of hard coin from abroad in return for the surplus products of our fertile soils. It would seem as if an over-ruling Providence had so ordered the seasons and the course of events, as to prepare us for the great contest in which we are now engaged for constitutional freedom and the final establishment of our government on a firm, permanent basis.

There is some anxiety in regard to the system of direct taxation established, but this is needless. The amount to be raised annually, averages less than two dollars for each inhabitant of the Free States. It will fall heaviest upon those best able to meet it; and very few persons would hesitate to voluntarily subscribe this amount, to support and maintain a free government, to the influence of which we are so largely indebted for the prosperity we have enjoyed.

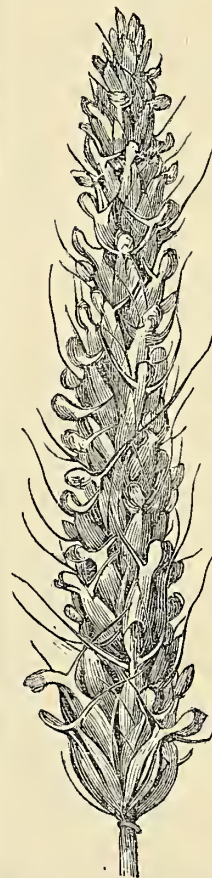
To the cultivators of the soil the present state of the country presents the strongest incentives to exertion. Their products will be in demand, however much all other commodities may be depreciated. He who fails, through fear, or sluggishness, to put in every acre of wheat possible,

and to increase the products of his acres to the highest point, fails in his duty to himself, to his family, and to his country. There is every motive to increased exertion, and to a careful study of the best methods of cultivation. If all other incentives fail, the certain prospect of full returns for the products of the soil, will surely stimulate to active and *well directed* labor.

Nepaul Barley—Giant Rye.

Last Winter we received two parcels of seed from Jno. S. Graham, of Calaveras Co., Cal., accompanied by the following note: "I send you a few seeds of what is here called Nepal (Nepaul) Barley. It may be on the Atlantic side, but I have seen no account of it.—Last season I drilled in one ounce on 147 square feet and it yielded 16½ pounds of clean grain, or at the rate of 92 bushels per acre. It has a unique appearance when heading out; the heads are six rowed and beardless.... The gigantic rye enclosed is believed to be particularly adapted for making vermicelli. It may be what is called "Polish Wheat" at the East, though not known by that name here. It grows 6 feet high, and yields well...."—The above seed we sowed April 15. The barley seed received was a splendid grain—very large, heavy, clear skinned, in brief,

the finest specimen we ever saw. It grew about three feet high, and bloomed. The accompanying sketch presents the exact appearance of a head in bloom. It had a few short spikes or dwarfed blunt beards, as shown in the cut. Being on dry sandy soil, and the drouth excessive, the kernels did not fill well enough to equal the seed sown. This is the first specimen we have seen, though we believe some seed was distributed from the Patent Office a few years ago. If it did well, we ought to have heard more of it ere this. From our small experiment under unfavorable circumstances, and from Mr. Graham's account, we should judge that this grain would be a decided acquisition, at least in some parts of the country where it may be found to flourish well. The "Gigantic



Rye" received, was also very fine, literally a gigantic kernel, as light colored and clear skinned as good wheat. Being sown in Spring, and suffering from the drouth, it did not attain a height of more than four feet, and the kernels were shrunken. What it would do if sown in Autumn and under favorable circumstances, we can not tell; it appears to promise well, and we shall be glad to receive a larger parcel to sow this Fall.

According to the *Farmers' Magazine*, 7,452 tons or over fifteen million (15,000,000) pounds of cheese were exported from the United States, from Sept. 1st, 1859. to Sept. 1st, 1860.

Agricultural Exhibitions for 1861.

[The following list gives the time and place of all the State and County Fairs reported up to the date of going to press. The "National Fast Day," which all will desire to observe, will interfere with those appointed for Sept. 26, and some immediate action should be taken to change the time to another week, or to open a day or two earlier, or a day later. Our own (Queens) County fair has been changed to Oct. 3.]

STATE FAIRS.

Name.	Where held.	Date.
Milwaukee.	Milwaukee, Wis.	Sept. 2-6
National Horse Show.	Ottawa, Ill.	3-6
Illinois.	Chicago.	9-14
Ohio.	Dayton.	10-13
Vermont.	Rutland.	10-13
California.	Sacramento.	16-21
New-York.	Watertown.	17-20
Kentucky.	Louisville.	17-21
Wisconsin.	Madison.	23-27
Canada West.	London.	24-27
Iowa.	Iowa City.	24-27
Michigan.	Detroit.	24-27
Minnesota.	St. Paul.	24-27
Oregon.	Oregon City.	Oct. 1-4

COUNTY FAIRS.

MAINE.

Oxford West.	Fryeburg.	Oct. 8-10
Kennebec.	Readfield.	9-10

NEW-HAMPSHIRE.

Cheshire.	Keene.	Sept. 24-25
Hillsboro.	Milford.	25-26

VERMONT.

Rutland.	Rutland.	Oct. 2-3
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MASSACHUSETTS.

Middlesex, North.	Lowell.	Sept. 12-
Highland.	Middlefield.	12-
Middlesex South.	Framingham.	17-
Hooisic Valley.	North Adams.	17-
Hampden East.	Palmer.	17-
Middlesex.	Concord.	19-
Worcester.	Worcester.	19-
Essex.	South Danvers.	24-
Worcester North.	Fitchburg.	24-
Housatonic.	Great Barrington.	25-
Franklin.	Greenfield.	26-
Norfolk.	Dedham.	26-
Worcester West.	Barre.	26-
Berkshire.	Pittsfield.	Oct. 1-
Bristol.	Taunton.	1-
Hampden.	Springfield.	1-
Plymouth.	Bridgewater.	3-4
Worcester South.	Sturbridge.	3-
Hampshire, Hampden		
and Franklin.	Northampton.	3-
Barnstable.	Barnstable.	8-
Worcester South East.	Milford.	8-
Nantucket.	Nantucket.	10-11
Hampshire.	Amherst.	10-
Martha's Vineyard.	West Tisbury.	15-

CONNECTICUT.

Fairfield.	Bridgeport.	Sept. 17-20
Housatonic.	New Milford.	25-27

NEW-YORK.

Rensselaer.	Lansingburgh.	Sept. 2-6
Saratoga.	Saratoga Springs.	3-6
Oneida.	Rome.	9-12
Broome.	Binghamton.	10-12
Oswego.	Mexico.	10-12
Chenango.	Norwich.	10-12
Cortland.	Homer.	11-13
Chautauqua.	Jamestown.	17-19
Brooklyn Hort. Soc.	Brooklyn.	18-20
Delaware.	Hobart.	18-20
Oxford (Chenango Co.)	Oxford.	23-25
Putnam.	Carmel.	24-26
Westchester.	Mount Vernon.	24-26
St. Lawrence.	Canton.	25-27
Ulster.	Kingston.	25-27
Albany.	Albany.	Oct. 1-4
Queens.	Flushing.	3-

TOWN.

Smithville.	Smithville (Chenango Co.)	Sept. 5-6
Union.	Medina (Orleans Co.)	12-13
Union.	Deposit (Delaware Co.)	18-19
Virgil.	Virgil (Cortland Co.)	19-21
Brookfield.	Clarkville (Madison Co.)	24-25
Union.	Trumansburg (Tomp. Co.)	25-27
Brookport.	Brookport (Monroe Co.)	Oct. 1-2
Wilson.	Wilson (Niagara Co.)	9-10

PENNSYLVANIA.

Mercer.	Mercer.	Sept. 17-19
Florence.	Florence (Wash. Co.)	18-19
Luzerne.	Waverley.	24-26
Clearfield.	Clearfield.	Oct. 15-17
Columbia.	Blomdsburg.	17-19

CALIFORNIA.

Tchama.	Red Bluff.	Sept. 11-
Sonoma.	Santa Rosa.	24-27

OREGON.

Marion.	Salem.	Sept. 11-12
Yamhill.	McMinnville.	24-25
Lane.	Eugene City.	Oct. 9-10
Washington.	Hillsborough.	16-17

OHIO.

Brown.	Georgetown.	Sept. 3-6
Franklin.	Columbus.	3-6
Ashtabula.	Jefferson.	4-6
Madison.	London.	4-6
Clermont.	Olive Branch.	4-6
Clinton.	Wilmington.	4-6
Clermont.	Bantam.	10-13
Geauga.	Burton.	17-19
Portage.	Ravenna.	18-19
Crawford.	Bucyrus.	18-20
Guernsey.	Cambridge.	18-20
Lake.	Painesville.	19-21
Tuscarawas.	Canal Dover.	22-24
Geauga (free).	Claridon.	24-26
Morgan.	McConnellsville.	24-26
Trumbull.	Warren.	24-26
Miami.	Piqua.	24-27
Knox.	Mount Vernon.	25-27
Lorain.	Elvira.	25-27
Seneca.	Tiffin.	25-27
Pickaway.	Circleville.	25-27
Jefferson.	Steubenville.	25-27
Columbiana.	New Lisbon.	25-27
Allen.	Lima.	26-28
Hancock.	Findlay.	26-28
Richland.	Mansfield.	Oct. 1-3
Summit.	Akron.	1-3
Mahoning.	Canfield.	1-3
Coshocton.	Coshocton.	1-3
Carroll.	Carrollton.	1-3
Wayne.	Wooster.	1-3
Shelby.	Sidney.	1-4
Clark.	Springfield.	1-4
Champaign.	Urbana.	1-4
Butler.	Hamilton.	1-4
Sandusky.	Fremont.	2-4
Hardin.	Kenton.	2-4
Defiance.	Defiance.	2-4
Stark.	Canton.	2-4
Harrison.	Cadiz.	2-4
Huron.	Norwalk.	2-4
Morrow.	Mount Gilead.	2-4
Greene.	Xenia.	8-10

MICHIGAN.

Berrien North.	St. Josephs.	Sept. 18-20
Washtenaw.	Ann Arbor.	18-20
Ottawa.	Lamont.	19-20
Lapeer.	Lapeer.	24-26
Jackson.	Jackson.	25-27
Macomb.	Romeo.	Oct. 2-4
Ionia.	Ionia.	2-4
Kent.	Grand Rapids.	2-4
Calhoun.	Marshall.	8-10

WISCONSIN.

Bad Ax.	Viroqua.	Sept. 9-11
Racine.	Union Grove.	17-19
Jefferson.	Lake Mills.	18-19
Winnebago.	Oshkosh.	18-19
Richland.	Richland Centre.	21-22
Dodge.	Manitowish.	24-25
Lafayette.	Darlington.	25-26

IOWA.

Dubuque.	Dubuque.	Sept. 4-6
Crawford.	Dennison.	12-13
Black Hawk.	Waterloo.	12-13
Mahaska.	Oscalosa.	17-18
Washington.	Washington.	17-19
Pottawatomie.	Council Bluffs.	18-19
Union (Scott, Cedar, Jones and Jackson Co.)		
Wheatland, (Clinton Co.)		18-20
Jackson.	Andrew.	18-20
Page.	Clarinda.	19-20
Linn.	Cedar Rapids.	24-26
Chickasaw.	New Hampton.	25-26
Cerro Gordo.	Mason City.	25-27
Montgomery.	Frankfort.	Oct. 1-
Marion.	Knoxville.	1-3
Benton.	Vinton.	2-3
Guthrie.	Guthrie Center.	2-3
Jones.	Anamosa.	2-4
Breiner.	Waverley.	3-4
Wayne.	Corydon.	4-5
Davis.	Bloomfield.	4-5
Johnson.	Iowa City.	5-6
Harrison.	Magnolia.	9-10
Tama.	Toledo.	9-10
Van Buren.	Keosauqua.	10-11
Marshall.	Marshall.	11-12
Crawford.	Dennison.	12-13
Hamilton.	Webster City.	17-18

INDIANA.

Switzerland and O.	Enterprise.	Sept. 17-20
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KENTUCKY.

Breckenridge.	Cloverport.	Oct. 1-5
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KANSAS.

Douglas.		Sept. 8-9
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ILLINOIS.

Cass.	Virginia.	Aug. 27-29
Morgan.	Jacksonville.	Sept. 3-6
Peoria.	Peoria.	3-6
Henry.	Cambridge.	4-6
Warren.	Monmouth.	4-6
Macon.	Decatur.	16-20
Winnebago.	Rockford.	17-20
Union.	Warren.	17-20
DeKalb.	Sycamore.	18-20
Stephenson.	Freeport.	23-25
Mercer.	Millersburg.	24-26
Ogle.	Oregon.	24-26
La Salle.	Ottawa.	24-27
Bureau.	Princeton.	24-27
Montgomery.	Hillsboro.	24-27
Whiteside.	Morrison.	24-27
McLean.	Bloomington.	24-28
Logan.	Lincoln.	25-27

Farming in Kansas—Good Reports.

[The following letter, dated at Lawrence, Douglass Co., Kansas, Aug. 5th, is from Mr. E. B. Whitman, who was, if memory serves us right, the President of the Constitutional Convention at the organization of the Territory into a State.]

To the Editor of the American Agriculturist:

The good people in the older States, who so generously came to our support in a time of famine, will be rejoiced to hear of our prosperity this year. As a State we shall unquestionably produce a large surplus of breadstuffs and vegetables, above our own consumption, and from the sad experience we have had, proving that our State is liable to occasional extreme drouths, our people will be inexcusable if they do not lay by a supply in advance for such an emergency. Many farmers have planted double their customary amount of land, and the prospect for full crops is unusually good. The Spring was late, and March and April rather dry, leading some to fear a repetition of last season's drouth, but before the middle of May every doubt on that point was dispelled, and we have had fine showers just when needed, during the whole of the Summer.

Many fields of spring wheat will probably average 30 bushels to the acre. Winter wheat is all good—some of it excellent. Rye and barley, sown for the first time to any extent, and the result is a good crop of both. Potatoes were never more promising. Buckwheat is now up and looks well. The certainty of an enormous crop of corn seems beyond question. The yield must vary from 50 to 80 bushels per acre. In many cases the cost of cultivation, with a yield of 80 bushels per acre, will not exceed five cents per bushel.

For the last two weeks we have had an unclouded sky, transparent atmosphere, burning sun, hot nights, with the thermometer ranging from 85° to 100°. In all probability, this weather will be the type for the remainder of the month, varied by an occasional shower, furnishing every condition requisite to the complete perfection of all our crops.

Our Agricultural Societies will again resume their operations, and fairs will be held this year in several of the most populous counties, for most among which is Douglass County, the charter of which provides for an annual tax of \$500 to \$1000 to be assessed upon the county, which shall be expended in premiums. This, in addition to the other sources of income, enables the infant society to start out with vigor, and in the future you may expect to hear good accounts of the agricultural character of our county, and State.

E. B. WHITMAN.

USE FOR THE AILANTHUS.—A European Journal states that Count Lambert, a great Russian landed proprietor living at Odessa, having failed for sixteen years in various attempts to fix the deep blowing sands on his estate, has at last succeeded by means of the Ailanthus tree. The seeds were sown, and the running roots have taken full possession of the soil, the trees forming an almost impenetrable forest. Measures are now being taken by him to introduce the new silkworm which feeds on the Ailanthus.

The "Army Worm."—(*Leucania unipuncta*.)

For a month past we have been receiving accounts of the ravages of this pest, with frequent samples of the worms themselves, from various localities, too numerous to specify here. Few of those forwarded by mail from a distance have arrived in a live, or even in a perfect state. All the descriptions point to the same insect, though some are described as dark brown, or black, with yellow stripes on the sides, and others are called dark green, light green, etc. This variation in color has probably resulted from the light in which they were observed, and the kind and amount of food they had just consumed. Dr. Fitch, our State Entomologist, says this is the larva or caterpillar, of the *Leucania unipuncta*—a moth measuring about $1\frac{1}{4}$ inches across the spread wings. The color of the fore wings is a tarnished yellowish drab, with a small white dot near the center, and a dusty oblique streak at their tips. The hind wings are a smoky brown, with a purplish gloss, and nearly transparent. The abdomen, or hind body, is smoky gray above, and ash gray beneath. The moths deposit their eggs upon the grass near the ground, which soon hatch out little worms that feed upon green herbage, and rapidly develop into worms $1\frac{1}{4}$ to $1\frac{1}{2}$ inches long.

The general descriptions sent to us correspond with the worms we obtained near Greenport, on Long Island, and others brought to the *Agriculturist* office from localities so near at hand that they have been transported alive and in vigor. The general color of the worm is dark brown, or they appear nearly black when crawling on the ground. The legs are sixteen in number, with yellowish stripes along the body just above the legs, and three other stripes of the same color along the back. The stripes are not very plain at the middle, but quite distinct nearer the ends of the body. The head is marbled with dark lacework on a yellowish ground; and from the top of the head two dark lines run down in front, spreading apart in a curve near the mouth. The body appears naked, but a close examination shows a few short hairs, which are most numerous near the head.

The worms move with considerable rapidity. Where they were moving in a path at ordinary speed, we marked the sand before them, and tested their speed by the watch and rule; it averaged full $3\frac{1}{2}$ feet per minute, or over 200 feet per hour. When not feeding, they seem to be "always in a hurry to get somewhere."

They are called the "army worm," because they appear to move together in vast numbers; but from what we have observed of their habits, we judge their being together thus, is a matter of chance, arising from circumstances favoring their production and development in a particular locality. They feed upon the leaves and heads of grain, corn, grass—in short upon almost every green thing, though they seem to have a choice for the grain and corn fields, and unless in great numbers, do not attack potato vines, pumpkins, and some other vegetables.

They probably enter the ground at maturity, and change to the chrysalis state, and, similarly to the butterfly, come forth a moth another season, to reproduce another army of worms from eggs. From their sudden appearance in so great numbers, it is possible that they may in part lie dormant for years, and come forth at long intervals when circumstances of weather, etc., favor their development. Of these matters, however, we can not speak with any degree of confidence.

Turkies and hogs feed upon the worms and destroy great numbers of them, and it is probable that working the ground in Autumn or early Winter, may disturb the chrysalides and promote their destruction by frost. Fires lighted at night, at the time the moths appear, would probably attract and destroy large numbers of them. The best remedy yet discovered, though very imperfect, is partially effective. This is to plow a deep smooth furrow in their pathway, turning the slice toward them, and leaving a smooth steep landside, up which they can not well climb. A billet of wood drawn through the furrow occasionally, will kill them. Some have spread straw in the ditch and on the turned furrows, and when this was covered with the worms, set it on fire. Care must be taken to leave no straws against the land side for them to climb out upon. Others have made large, deep holes at intervals along the furrows, and the worms falling into them, are unable to crawl out. We hope other methods of destruction, or prevention, may be speedily discovered, for if, in the many localities where they have appeared this year for the first time, they multiply as rapidly another season, we may well be solicitous for our future crops. We shall be glad to receive any useful information on the subject for the columns of the *Agriculturist*.

Another Grain Destroyer.

The Grain Aphis (Aphis Avenae)—Letter from Dr. Asa Fitch.

Just as we were going to press with the August No., several communications were received concerning the depredations of an insect which had not before been known to be sufficiently numerous on grain to cause marked injury. Mr. Ebenezer Selleck, Niagara Co., N. Y., forwarded specimens of wheat ears on which the insects were very numerous, and others were brought in from Long Island. They were at once recognized as Aphides, or plant lice, a general description of which genus appeared in the *American Agriculturist*, Vol. XIX, page 80, (March 1860). In order to obtain more specific information concerning them, we forwarded specimens to Dr. Asa Fitch, who responded as follows:

"The insect you send me is the grain Aphis, *Aphis Avenae* of entomologists. This insect is vastly more numerous here, this year, than I have ever noticed it before, and is exciting considerable alarm among the farmers in this vicinity. It is a small plant louse; some are grass green, others deep orange or reddish, (I have seen both colors born from the same parent,) which stations itself mostly at the very base of the chaff in which the kernels are inclosed, and sucks the juices which should go to perfect the kernel. Thus the grain will be shrunken and light of weight where these insects are numerous. A large portion of the ears, in every wheat field I have examined, had a little cluster of these lice crowded together around the base of almost every kernel. As the wheat, rye, and barley, become ripe and juiceless, the insects disappear from them and gather upon the oats, this crop being so much later in ripening. Hence oats more than any other grain crop, are liable to be thronged by them.

I do not know as there is any feasible remedy for this aphis. I would recommend a trial of dry chloride of lime, sowing or dusting freely over a small space of the field, perhaps repeating it a day or two after, and in a day or two more it can be seen whether this smothers and

destroys these insects sufficiently to render it worth while to resort to a more extensive use of it. A neighbor tells me he is unable to find any of this article in the stores hereabouts, that is not deliquesced, and thus unfit for this use—else I should have tried its effects myself."

P. S. Since preparing the above, we have made several excursions in various directions from New-York, and have found the insects very abundant upon oats. In Southern Connecticut, and especially on the eastern portions of Long Island, we have seen them in great numbers. In a field near the center of the Island, we could not find a single head of oats on which there was not a complete circle of the aphides around the neck of every kernel. In many places they appeared in such numbers as to change the color of the fields of grain. They have also been forwarded to us from many counties in Pennsylvania. Some farmers seemed to think they will do no harm, while others say they suck the entire life out of the grain, which we found to be the case where the oats were not nearly mature before the development of the insect. We are now daily receiving information which indicates that the appearance of the insect has been very general over the country. How to account for this, whether it is to depart, or return in still greater abundance another season, and what remedy, if any, can be resorted to, are questions we can not now answer. Several insects, particularly the well-known lady bug, feed upon these aphides, and it is worthy of remark that these friendly insects are very numerous the present season, so that we may hope the increase will be checked. Anything throwing further light on the subject will be of special interest to the country at large.

Teaching Hogs to Destroy Thistles.

A writer in the Southern Homestead says: "I will give a method of exterminating thistles which I have tested and found effectual, and which costs nothing. It consists in teaching hogs to eat the roots of the plant. Tramp on the buds of a goodly number of the largest plants in the Spring, and place on each bud a teaspoonful of salt; then turn your hogs on them. They will eat the roots of the salted plants first, and will thus acquire a fondness for the roots, and will continue to eat them daily as long as any can be found. If but one hog be educated in this way, he will teach the whole herd to eat them, and they will exterminate all on the farm."

Sowing Wheat and Rye with Buckwheat.

A correspondent of the *Prairie Farmer* says: "Last season I tried sowing my rye with Buckwheat. Put in that way it did much better than that sown after the buckwheat was cut, and it produced heads nearly twice as large. The rye must be well harrowed, sowing the buckwheat afterward, and brushing it in. If the rye is only brushed, it is apt to be drawn out with the growth of the buckwheat. The rye will seldom be found to grow too much under the buckwheat; if it should, it may be fed down in the Fall. The readers of the *Agriculturist* will remember the recommendation of Dr. C. Harlan, in Feb. No., page 35, to sow buckwheat with Winter grain in the Fall. It is cut down by frost before maturing, and serves as a protection to the grain through the Winter. Let the experiment be repeated on a small scale by others, this Fall, and the results noted next year, and reported.

Draining—Why—Where—How.

(Continue from pages 26, 70, 105, 137, 169, 201, 233.)

LAYING OUT DRAINS.

The first thing to be attended to, is the finding of a suitable outlet. Many have written to us recently, that this is their chief difficulty, owing to the location, or the flatness of their lands. For some hints on this subject see *May Agriculturist*, page 137. A large fall is not necessary to carry off water. One inch fall in 100 feet will answer in extreme cases, and we have heard of efficient drains with a fall of only 1 inch in 200 feet, though much more is desirable. If it be impossible to find any outlet into a brook, or highway gutter, or across a neighbor's land, we should say, choose the lowest field that can be used to receive drainage, and give this up to grass, turning the water of the rest of the farm upon it. Better have one field injured or even spoiled by excess of water, than to leave a dozen others, all more or less defective through the same cause.

In connection with the outlet, it is necessary to look after the *main drain*, and its principal feeders or sub-mains. The natural conclusion would be that the main drain should be so located as to receive and carry off readily all the water flowing into it. Usually, the main drain should be so located that the sub-drains may run down the sides of slopes. And here comes up the general question of the direction of drains upon sloping or hill-side lands. For illustration, suppose we have a field upon the side of a hill, inclined say from East to West—the upper part, five, ten, fifteen, or more feet higher than the lower part. And suppose, also, that the same field slopes a little from South to North. At

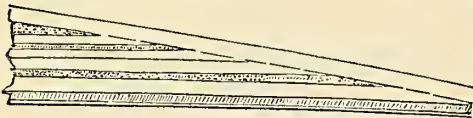


Fig. 28.

first thought, it would be considered best to run the small drains across the field into the main, so as to cut off the water flowing down the hill, and carry it into a main, running down along the north side. This error most persons naturally fall into. As explained on page 105 (April), most hill-side soils are made up of successive layers of loose porous materials, alternating with those of an impervious character—regularly as seen in fig. 28, or irregularly as in fig. 5. It is the occurrence of the close compact strata, that prevents the water from sinking down. Now, suppose that in fig. 5 we run drains across the slope at *b*, *d*, and *f*. The drain at *b*, will collect the water from above and carry it over to the main drain running down the hill further North, at least so much of it as does not flow out from the lower side of the drain and follow the natural course down the hill. But all the water in the surface soil between *b*, and *d*, would still flow

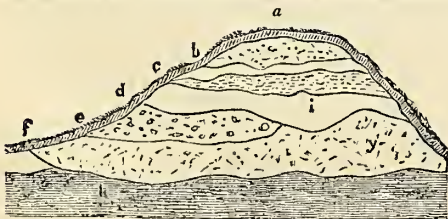


Fig. 5.

through the surface until it reached the next drain at *d*, and this intermediate space would be kept wet. But suppose that instead of running these drains across, we conduct them right down

the hill, as shown in fig. 30. They will then cut *all* the layers of soil, and drawing in the water from each side, will keep the whole dry. Taking into account the fact that sloping or inclined soils are made up of different strata coming out to the surface one below the other, and also the fact that cut-off drains across slopes are liable to discharge more or less water along their lower sides, it may be laid down as a general rule, that, so far as practicable, all drains should run as nearly as possible directly down the inclinations of side hills or sloping lands. If the surface be broken with gullies or hollows, running up the hill, or diagonally across the general slopes, the most approved plan is to run main or sub-main drains up through the bottoms of the gullies, and then cut short side drains down the inclinations at nearly right angles to the main or sub-main drains. To state

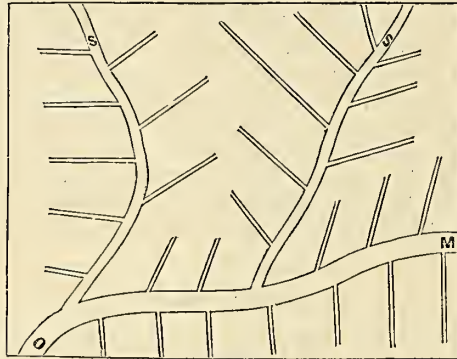


Fig. 29.

the rule in general terms; let each drain be so arranged as to give the greatest fall throughout its whole length.—In Fig. 29 we give a diagram of the drains in a 10-acre field which we visited not long since. The main drain, *M*, runs along the lowest place in the field, with an outlet at *O*. The two sub-mains, *S*, *S*, pass through lower portions, or valleys, while the smaller drains run directly down the sides of the higher portions. Where a field is so situated upon an inclined plane, or at the base of a hill, that it receives surplus water from a farm or field above, on one or more sides, it will be well to not only pro-

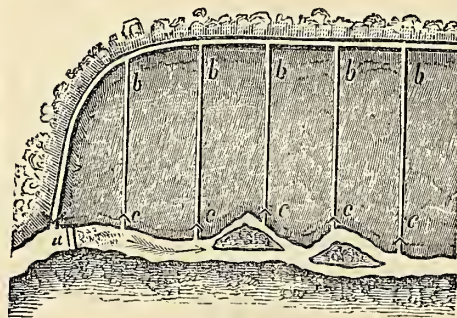


Fig. 30.

vide parallel drains down the field, but also to place a cut-off drain around the upper side to receive and carry off the entire outside water. This is illustrated in fig. 30, in which *a* is a brook at the base of the hill-side, (or it may be an open or covered artificial drain). The smaller downhill drains are shown at *b*, *b*, *b*. The cut off drain curves around at the base of the higher ground above the field, discharging near *a*. As hinted previously, it is impossible to give specific rules applicable to every case. In laying out drains, every man must exercise his own judgment, and be guided by the peculiar location of his field, and the nature of the soil.

Where the surface of a field is much inclined, or very uneven, the eye is usually a sufficient

guide; but on land nearly level, some kind of a leveling implement is needed. For a home-

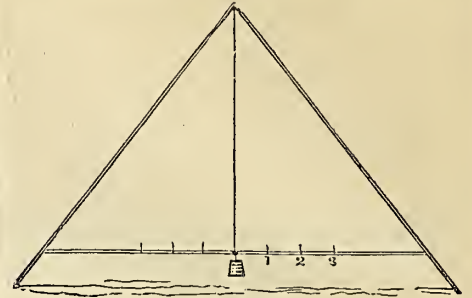


Fig. 31.

made instrument a flat board with an oiled surface will answer very well. By pouring a little water upon the center and placing the board so that the water shall spread out uniformly in all directions, a pretty good level surface can be obtained for sighting across. Fig. 31, is also a convenient instrument. It is simply a triangular frame of wood, with a weight suspended from the upper angle by a cord. By turning it round end to end on a level floor, the center point can be found, and then whenever the weight cord is brought against the center point, the cross or horizontal bar is level and may be used for sighting across. The inclination for a fall of a foot, or an inch, in each five or ten rods, may be ascertained by experiment, and the place of the cord on the cross-bar be indicated by the figures 1, 2, 3. When once marked thus, the instrument will be convenient to lay out drains at any desired inclination, or amount of fall per rod. The common spirit-level (fig. 32.), used by carpenters, and builders, is very convenient. One



Fig. 32.

can be bought for a few shillings, or be borrowed of a neighboring carpenter for temporary use. Fig. 33 illustrates the most convenient mode of using this instrument. Going to the lower end of the proposed drain, place the spirit-level at *a*, on a support so high that when leveled, the line of sight shall strike the surface of the ground near *b*. The stakes, 2, 3, 4, ... are set up, say one rod apart, along side the proposed drain, and while one sights the instrument, another marks the stakes at the top. If the entire fall from *b* to *a* be 10 inches, more or less, there is then a fall of say 1 inch to each rod. Beginning at stake No. 10, make a second mark 1 inch below the upper one. Mark No. 9, 2 inches below; No. 8, 3 inches below, and so on. If then the depth of the drain, *d*, is to average 3 feet, it is only necessary to dig at any point just 3 feet below the lower mark on the stake at that point, keeping the grade of the bottom uniform between any two stakes. By this exceedingly simple plan we have been able to secure an almost perfectly uniform grade for the bottom of drains, the diggers using a straight-edged board as a guide between the

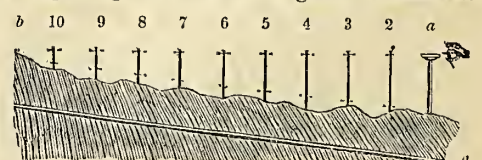
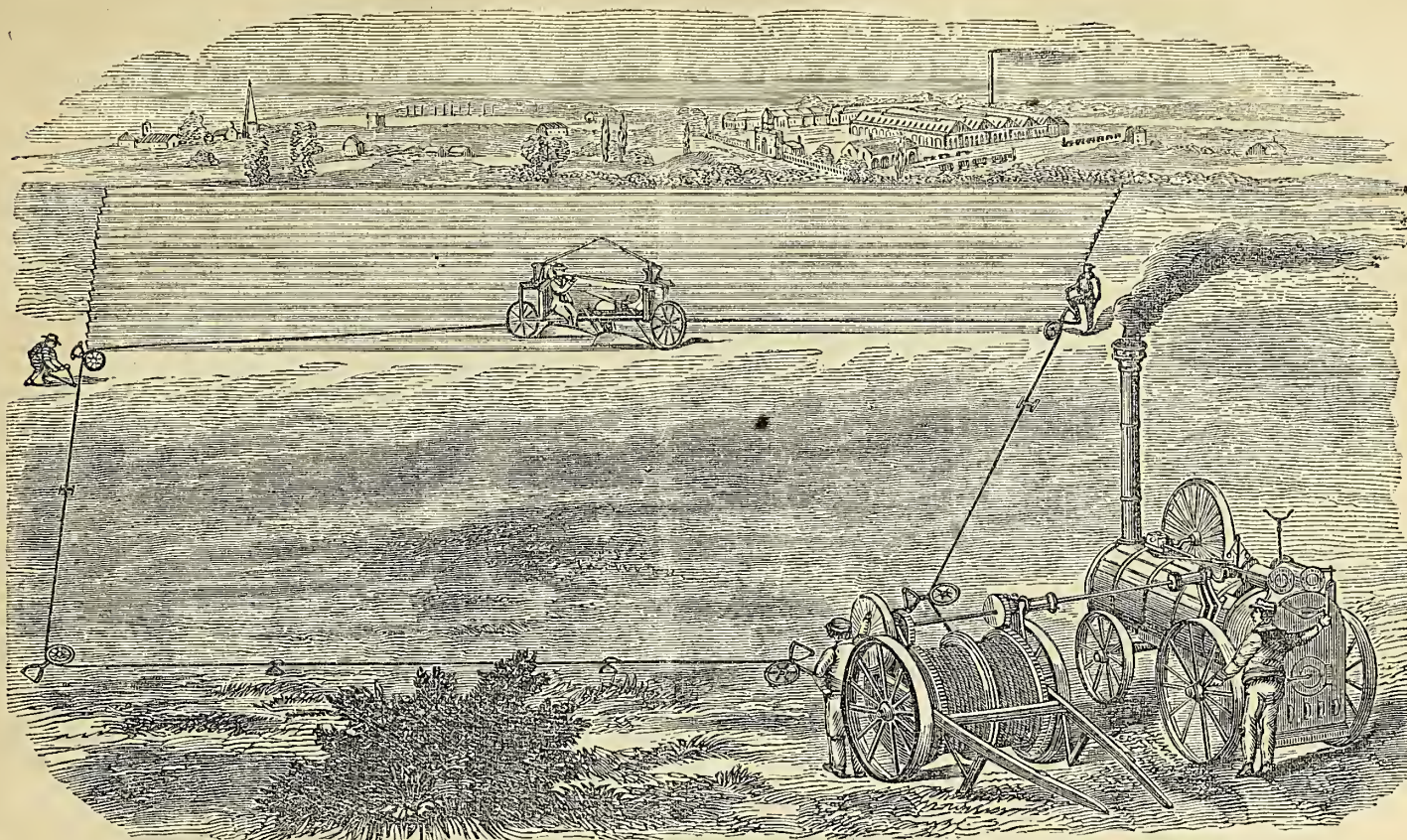


Fig. 33.

marked stakes. In practice also we usually set the stakes only 10 or 12 feet apart, as they are easily and quickly put down and marked, and the nearer they are together, the more readily will the bottom be kept to a true grade.



HOWARD'S APPLICATION OF STEAM POWER TO PLOWING.

We begin to fear the failure of our prediction, a few years ago, that "the man who would first successfully apply steam power to general cultivation, probably lived on this side of the Atlantic." Our American Fawkes seems to have been on the point of realizing complete success, but there is still some defect, we know not what, that prevents his implement from coming into general use. In England, on the contrary, both Mr. Fowler and Mr. Howard have so far succeeded, that the manufacture of these implements has been commenced to supply orders for actual field use.

Mr. Fawkes is at work trying to get up a *traveling* engine, one that shall traverse the field like a huge elephant drawing his load after him. Mr. Fowler places his engine upon one side of the field, and moves it along the head land as the work proceeds, drawing and sending the plows to and from the power, by means of ropes and pulleys. Mr. Howard stations his engine upon one corner of the field, and lets it remain there, sending his plows to different parts of the ground and moving them backward and forward by means of ropes and pulleys. From the descriptions of the two modes (Mr. Fowler's and Mr. Howard's,) we have been inclined to give the preference to Mr. Howard's plan, because he does not require an engine specially constructed for the purpose, but can use any farm steam engine that can be transported to the corner of a field; while Mr. Fowler requires an engine constructed to move along as the work progresses.* Believing that it would greatly interest our readers, we have introduced the engraving above to show Mr. Howard's apparatus at work. It hard-

* We learn by the last received papers, that at its recent meeting, the Royal Agricultural Society of England awarded the first prize of £100 to Mr. Fowler, and the second prize of £75 to Mr. Howard. This does not alter the opinion stated above, that Mr. Howard's method will have the preference where it is desirable or necessary to use for plowing, a steam engine already constructed.

ly needs description, as the whole operation is plain from an inspection of the engraving. A drum is anchored near the stationary engine, and ropes run to anchored pulleys at the two nearest corners of the field, and from them to movable pulleys on two opposite sides of the land to be plowed. A number of plows attached to a frame running on wheels, are so arranged that when the frame moves in one direction, one set of right-handed plows are turned down, and when it moves in the opposite direction, the other set of left-handed plows are turned down. The draft ropes are wound upon the two ends of the drum to keep them from interfering, and one winds over the drum and the other under it. Now, as long as the drum is turned in one direction, one rope is wound up and the other unwound just as fast. As soon as the plows reach the side of the field, the motion of the drum is reversed by the engineer, and the plows are drawn backward, and the other plows being turned down, the plowing goes on. There being half a dozen or more plows at work in the gang, and the motion made as rapid as desired, a large amount of surface is plowed during a day.

What is Cultivated in England—The work for the Steam Plow.

The Agricultural Gazette (Eng.), in some remarks upon the success and prospects of the Steam Plow says: "Recent statistics show that the Wheat lands of this Island exceed 4,000,000 acres; the Barley land nearly 3,000,000 acres; the Oat crop exceeds 2,000,000 acres; the Potato crop over 700,000 acres; the Turnip crop each year nearly 3,000,000 acres; other crops exceed 700,000 acres; while 900,000 or more acres are in bare fallow. At least two-thirds of all this—nearly 15,000,000 acres—can be cheaper plowed and worked by steam than by horses.

Here are 15,000,000 to 20,000,000 acres to be plowed each year—equivalent to 2,000,000 days' work for a 12-horse-power engine. As there are not more than 120 convenient plowing days in the year, it will require *fifteen thousand 12-horse-power engines to do the work!*" QUERY.—If the comparatively small island of England (including Scotland and Wales) will need 15,000 engines, how many will be needed on the vast surface of the United States.—Ed. *Agriculturist*.

For the American Agriculturist.

Which way should Drills Run?

An erroneous impression seems to prevail in regard to the proper direction in which to place drills for plants cultivated in that manner. They are usually laid off North and South, in order to get the greatest benefit from the direct rays of the sun. Instead of North and South, the rows should run East and West. Suppose a piece of ground planted in drills two feet apart, running North and South; the plants by the middle of July having attained to the height of four feet, each row will be shaded by the one next East of it, until about the middle of the forenoon, then from the middle of the afternoon till night, the shade of each row will fall on its next Eastern neighbor. If the drills run East and West, the distance apart and the height being the same, the shadow of any row will not reach another row, excepting when the sun is near the horizon, early in the morning or late in the afternoon. In latitude 40 degrees North, the shadow of a plant four feet high will not reach two feet north from its base until about the tenth of August.

W. L. JUDSON.

Hancock Co., Ill.

[The above question admits of discussion.—Ed.]

Instead of idly waiting for something to turn up, go to work and turn up something.

Market Fairs in Illinois.

An Agricultural Society has been formed at Loda, Iroquois Co., Ill., which has instituted a system of Monthly Market Fairs, similar to those started at Bedford, Westchester Co., N. Y. Farm produce of every description is offered for sale under the supervision of the Society, on the first Saturday of each month. The expenses of rent and advertising, etc., are to be met by commissions of from $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent on sales, according to the amount sold. The Association regulates the manner of payment, requiring all sales, to be made on four month's bank notes, running at 10 per cent per annum; to be approved of by the Finance Committee of the Society. A discount of 5 per cent is made for cash. Parties offering articles for sale, must give ten days' notice, to enable the property to be properly advertised.—These market fairs, though an old institution in Europe, are a new enterprise here, and it remains to be proved by experiment, whether they will work well under our peculiar system of labor, and in our more sparsely settled country. We hope they may be successful.

Sale of Jonas Webb's Southdown Sheep —Great Prices Realized—The Best Bought by an American.

The sale of Mr. Jonas Webb's flock of Southdown sheep at Babraham, on July 10th, marks an era in the history of sheep husbandry, and will long be remembered, both from the successful termination of Mr. Webb's career as a breeder of sheep, and from the influence which the dispersion of his flock will have upon the flocks of the world. All the leading Southdown breeders of Great Britain were present, or were represented at the sale, and agents from nearly every quarter of the globe assembled to compete for the choice animals offered. The gathering of not less than 3000 persons on the ground showed the interest excited. The competition was keen, and the prices obtained were the greatest ever recorded. The highest priced animal, a two-year old ram, was taken by our enterprising countryman, Mr. J. C. Taylor, of New-Jersey, at *one thousand three hundred dollars!* The highest priced ewes, a lot of five, were sold to an English Baronet, Sir Thomas Lennard, for \$170 each, after a sharp contest with French and German agents. The average prices were as follows: 99 rams, two years old and upward, sold at \$15,260, or an average of \$154 15 each; three of the number each brought \$500 and upward, and one \$1,300, as noticed above; 199 yearling ewes amounted to \$11,015, or \$55 35 each; 120 of this lot went at more than \$50 per head; 169 yearling rams brought \$13,550, an average of \$124 31 each; 105 two-year old ewes sold at an average of \$37 50 each; 115 three-year old ewes at \$31 each; 230 full mouthed ewes, \$22 83 each; and 110 aged ewes \$18 08 each. In all, 967 sheep were sold for \$54,610, or \$56 48 each.

The breeding of sheep so excellent as to be eagerly sought at such prices, has, of course, been the work of years, almost of a life time. Mr. Webb commenced his labors in this line 38 years ago. His original flock was made up of the best ewes and rams he could obtain from five different sections. To these a few others were added, but for more than 20 years past the stock has been kept up without aid from any outside flock, and their size, weight, vigor, qual-

ity, and value, have steadily improved. In remarking on this extraordinary success, the London Agricultural Gazette says, the secret of it is, Mr. Webb's judgment, extraordinary acuteness, soundness, and self-reliance, and a resolution whose tenacity will not yield, though the decision of Agricultural Societies and their judges be repeatedly against it. In short, the best stock was continually selected for breeding, and good judgment was exercised in crossing.

Not every breeder of animals may meet with Mr. Webb's success, but every one may derive some profit from his experience, which proves that it pays to use care and judgment in the selection of animals. Who will rear an American breed of sheep which, twenty or more years hence, will attract eager purchasers from Europe, and from all the world?

P. S. As stated above, the highest priced, and the most valuable ram, was secured for the United States, for which the especial thanks of his countrymen are due to Mr. Taylor. No other ram sold for over half the price paid for the one obtained by Mr. T. The Mark Lane Express, of July 15, just received, gives a long and minute report of the sale. Here is an extract which will interest many of our readers:

"The extraordinary competition for No. 89 was the great event of the day; he was by the sire of the first prize yearling at Canterbury, dam by The Little Sheep, and was put up at 20 guineas; he rapidly advanced by fives to 60 gs., from which point he went slowly to 67 gs., as if he would advance no further; next 70 gs. were offered, and the bidding, by fives, now suddenly broke out again, and carried the offers rapidly up to 130 gs.; and then some bold wight, determined to crush all rivalry, sung out '150 gs.' but to no purpose, for 160 gs. was immediately proffered in opposition; the next bid was 170 gs., then 175, then 180, then 190, then 195, then 200, then 205, then 210, then 215—what not done yet? no—'I'll go another five,' says some one: and so he does, shouting out 220 as if that would settle the business; vain hope! 225 is the immediate response—230—235—240—245—250—255—260! (\$1300!) The ivory hammer fluttered nervously in the air, and one thousand pairs of eyes watched it fall at last in favor of Mr. Hudson, of Castleacre, who bought the ram for Mr. J. C. Taylor, of Holmdel, New-Jersey, U. S. The crowd swayed for a moment to and fro with that undefinable impulse to 'move on' somehow, which actuates men under such circumstances. There was also an attempt to get up a cheer, but it came to nothing, although the Norfolk visitors seemed particularly proud that their celebrated countryman had once more appeared A. 1 against all comers, among the most determined of whom was Mr. Rigden."

For the American Agriculturist.

Hints on Fattening Swine.

Nature clearly intended the hog to be a depository of fat. No animal has a better appetite, or is less dainty in his choice of food; good digestion waits upon his appetite, and his love of ease favors the process. Yet, though he takes thus naturally to fattening, much may be done by man to hasten or hinder the operation, and the profit in rearing swine depends very largely upon supplying favorable conditions for the desired accumulation. The plan too often followed, of allowing these animals to shift for themselves mostly, and barely exist until the time comes for putting them up to feed for killing, is not the most economical. A pig treated in this way becomes stunted, wild, uneasy, and voracious. It will require several weeks of heavy feeding to bring him up to the point where fattening should commence, and even then he can not attain the proportion which more liberal treatment would have given. One of the most successful pork raisers in the country said: "I begin to fatten my hogs from the time they are old enough to squeal, and I keep them so busy eating they have no time for squealing."

Some persons have the notion that the accumulation of fat in a pig interferes with his growth, and therefore he should have a rather spare diet for the first six months, in order to attain large size. But fattening is only the storing away of the excess of digested food. The wants of the growing bones, muscles, etc., are first supplied, and any surplus is deposited in the form of fat; and there need be no fear that the growth of other parts will suffer while fat is accumulating.

The most common error in fattening swine is delaying it until late in the season. The food taken into the system is required not only to build up the tissues, but to furnish animal heat. In warm weather but little fuel or food is needed for this purpose, and fat accumulates readily; almost the whole food eaten, will be exhausted in keeping the animal warm. Hence the policy of commencing to fatten early. One bushel of corn fed this month will give better returns than two expended in the depth of Winter. It is advisable to keep over a stock of old corn to feed with until the harvest commences, and a supply can be taken from the field.

Every animal relishes a variety of food, and fattening swine will turn with eagerness from their accustomed feed of corn, to munch pea vines, or green corn stalks. Their appetites will be kept up by gratifying this natural desire. Ground feed of rye and oats, or oats and peas to take the place of corn occasionally, will be beneficial; and there should be a liberal allowance of green food, with all the dairy wash that can be spared. Clear water is also essential, and should always be supplied to the pen.

Do not allow the sties to become filthy; swine are naturally cleanly in their habits, and by furnishing them with plenty of litter, a valuable addition will be made to the manure heap.

EXPERIENCE.

Food for Bees in Dry Weather—An Important Hint.

[Our gardener, Francis Otto, placed the following into the *Agriculturist* drawer, and it strikes us that the hint given is an important one to all bee-keepers. We are raising a large plot of Mignonette to obtain seed for our next year's free distribution to subscribers, and we have noticed for some time past that the plants have literally swarmed with honey bees.—ED.]

If not at all times, at least in hot dry seasons like the present, when there are but few flowers yielding honey, and also in places where bees are compelled to fly far away for food, I think there is no other plant which yields such a long succession of flowers as the Mignonette (*Reseda odorata*). Of so great value has it proved this year, that, as I learn, an extensive bee-keeper is preparing to sow it on a large scale next Spring—two or three acres at least!—solely as bee food.

Mignonette is very easily cultivated, and its long tapering root seems to fit it for standing drouth remarkably well. Furthermore, it can be sown very early—in fact the earlier the better, for the seeds, if not previously soaked, lie in the ground two or three weeks before starting. It will stand some frost both in Spring and Autumn. I would therefore advise bee-keepers to provide a large plot of Mignonette, not only to furnish early food for their bees, but especially as a resort in such a dry time as this—just as they would provide soiling crops for their cattle.

COL. FREMONT found bees on the highest peak of the Rocky Mountains, 12,000 feet above

the level of the sea. They had probably been carried there by a strong upward current of air.

Tim Bunker on Lightning Rods.

MR. EDITOR: "What are you putting up that iron thing on your barn for?" asked Jake Frink, as we were at work upon the last job about the new barn, which I have not yet said anything about in the *American Agriculturist*.

"I am going to have the barn finished," I said. "We want a rod just as much as we want windows in the frames, or shingles on the roof."

"I guess the littenin'll go where it is sent, rod or no rod," observed Tucker, as he thrust a new piece of pig-tail into his cheek.

"Wasn't Squire Rodman's house struck with lightning last week, though it had a rod on it," asked Jones, triumphantly.

"Yes, but the rod was joined with hooks and eyes, and the connection was not perfect," observed Mr. Spooner, who was one of the group.

"Don't you think your provokin the Almighty by puttin up that rod?" asked Deacon Little, who has never forgiven me for turning salt marsh into meadow, and raising three tuns of herds-grass to the acre. "You see," continued the deacon, in his favorite style of argument, "that what is to be, will be, and you can't help it by lightning rods or any other instrumentality. If it is decreed that your barn is to be struck with lightning, I guess iron rods ain't goin' to save it. A man better not tamper with thunderbolts."

"Now," said I, "Tucker, what have you got a chimney to your house for?"

"Why, to carry the smoke off, to be sure, and to keep the house from burning up when we make a fire."

"Well, said I, "won't the smoke go where it is sent, just as much as the lightning. And yet you don't find any difficulty in making the smoke follow the inside of the chimney, until it gets up into the air out of your way. Now I admit that lightning is a little more dangerous to handle than smoke, but it follows certain laws, just as straight as smoke does. You see, lightning has what the philosophers call an affinity for iron, and it follows the outside of a rod, just as smoke does the inside of a chimney. Some say it goes down, and others say it goes up. At any rate, it sticks to the rod, and so passes off without doing any damage, just as smoke sticks to the chimney. If you want to know why it does that, I will tell you when you can tell why smoke goes up chimney. It follows the road that is built for it, just as regularly as a locomotive follows the railroad."

"An engine would go rather promiscuous, Squire, if it wa'nt for them 'ere rails," said Seth Twiggs, as he blew an extra puff from his pipe, illustrating that smoke would go where it was sent, when it did not follow a chimney.

"But that ain't a fair argument," said Deacon Little, "you know it ain't Tim Bunker, you infidel. We make smoke and can control it, but the Almighty makes the lightning."

"Well Deacon," I asked, "What have you put shingles upon your house for?"

"Why, to shed rain, of course."

"Very well," said I, "and the Almighty makes the rain, if he don't make smoke; and if a man is to be wet, he will be, and you can't help it by putting shingles over his head, or by any other instrumentality. It is no use tampering with what Noah's deluge was made of."

The Deacon saw he was caught, and looked over to Mr. Spooner for help. He always believes in Mr. Spooner's orthodoxy, when he

sides with himself, otherwise he is heretical.

"I do not see how you can get round the Squire's argument against shingles, remarked Mr. Spooner, rather dryly.

"It stands to reason," I continued, by way of clinching the argument, "that rain is just as much a Heaven-sent article as lightning. If a man is wise in turning off the rain, by a shingle, he can not be a fool, or an infidel, in turning off the lightning by an iron rod." It is surprising, Mr. Editor, to find so much ignorance, and prejudice, in the community, against the use of lightning rods. It is just as well settled, in the minds of all intelligent people, that these conductors are a complete protection against lightning, as it is that roofs are a complete protection against the storm. Roofs sometimes leak, and the rods sometimes do not connect. In either case, the fault is not in the theory, but in the imperfect realization of it. A whole roof is a complete protection against rain. A good rod is a complete safeguard against lightning. And yet we find a hundred roofs where we find one rod. A house or barn is considered finished when the roof is on, and the glass is in the windows. I don't consider it finished until the lightning rod is on.

Most people consider it pretty good policy to get insured against fire, though there are some who seem to think it a sort of gambling to do that. A man builds a barn, worth \$3,000, and when his stock and hay and grain are in, it is worth not less than \$5,000. He gets it insured, at a cost, say, of \$10 a year, and thinks it good economy. Upon the same principle that a man gets insured against fire, I think he had better get insured against lightning. It is much cheaper, and he has the advantage of being his own insurance company. All the rods that protect my barn, with the expense of putting them up, cost only \$33, the interest on which is only \$2 a year. The protection is perfect, and the rods will last as long as the barn does. Here is \$5,000 worth of property made secure against lightning, for \$2 a year.

It is very common to read in the papers, of lightning striking barns—setting them on fire, or killing oxen and horses sheltered in them. I consider that there is more danger to buildings in the country from this source than there is from fire. In the city it is different. The lightning rod is a very cheap insurance company. It never proves bankrupt and fails to pay. Dishonest clerks will not run away with the capital. Scamps and scoundrels can't steal the fluid and fire the barn with it. It will follow the rod with a good deal more certainty than smoke follows the chimney.

The pecuniary advantage of this protection is clear enough, and I guess Deacon Little will begin to see it pretty soon. But this is only one item. You see, it is a great satisfaction to know that your stock and your family, as well as your buildings, are all safe when a thunder shower comes up. I am not more scary than most people, but it is a mighty uncomfortable sensation, when the thunder is crashing around your dwelling, to think that the next bolt may find its way to the earth, through your body, or through one of your family. As our bodies are very good conductors, and we are not born with lightning rods on us, I think we had better put them on our houses, and then the lightning will go just where we send it.

I always noticed, before I put up a rod, that Mrs. Bunker took to the bed as regular as a thunder gust came up in the Summer. She has got considerable courage, but she said "no

woman could be expected to stand lightning." But since we have had the rod, she sits by the window reading, with her spectacles on, just as calmly as if the lightning never killed folks. I don't know how two or three dollars a year could purchase so much comfort, in any other article. People's tastes differ, you see, about comfort. Mine runs towards lightning rods.

Yours to command,

TIMOTHY BUNKER, ESQ.

Hookertown, Aug. 15, 1861.

A Short Sermon on Stables.

The recent improvements in American architecture have not reached the stable, to the extent that could be desired. Brown stone fronts, high ceilings, marble mantel-pieces, costly furnaces for warming and ventilating the dwelling, may please the eye and promote the health and comfort of the occupants, while the valuable horses of the proprietor are suffering from a poorly constructed and poorly ventilated stable.

The fault often lies in two directions. The stable may be too tight, or too open. A horse needs light, as well as air and suitable warmth and food,—the vegetable structure hardly needs light more than he does. Pure air is essential. His blood can not become purified while the air which inflates his lungs is full of foul gases from fermenting manures. Nor is it enough to keep the stalls clean, if they are so tight that the horse is obliged to breathe his own breath over and over again. Digestion is interfered with, and all the functions of life are impeded. Lazy grooms declare that a close, warm stable, helps to make a horse's coat fine and glossy in Winter as well as in Summer. But in Winter, such a coat is not to be desired. Nature provides the animal with longer hair and more of it, to defend him from the cold. If the horse is well groomed and blanketed, his hair will be smooth and glossy enough all the year round. The indolent groom ought himself to be shut up for twenty four hours in the hot, steaming air in which he would confine his master's horse, and see how he would like it. Open the doors of such a stable in the morning, where several horses are kept, and the hot air and the harts-horn are almost sufficient to knock a man down. What wonder, then, that horses so used, should suffer from inflamed eyes, cough, glanders, and other ailments! The wonder is that they bear the abuse so long and so well.

Now, the "improvement" to our sermon is simply this: *ventilate the stables*. Ventilate, both in Winter and Summer. The outer air should be brought in at certain places near the floor, but not in the immediate neighborhood of the horse, so as to cause hurtful drafts of wind directly upon him. Impure air must be ejected, as well as pure air brought in. This can be done in Summer very well by leaving several windows open in different parts of the barn. But a better way is to insert ventilators in the highest part of the building, into which ventiducts, (square wooden tubes,) shall lead from the stalls, and which can be opened or closed at pleasure. These ventilators should be covered with a cap, to prevent downward currents and the beating in of rain. By this plan, the foul air is carried off directly from the stall without mixing with the hay in the loft.

PERIOD OF GESTATION IN MARES.—W. H. Ladd states in "Field Notes," that from records kept the last 13 years, he finds the more usual time of pregnancy with mares is 11½ months.

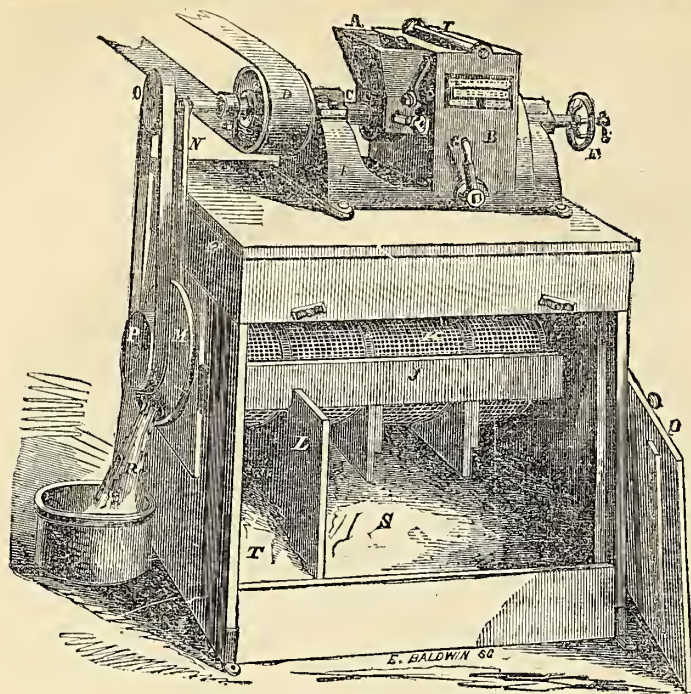


Fig. 1.

"Farm Mills."

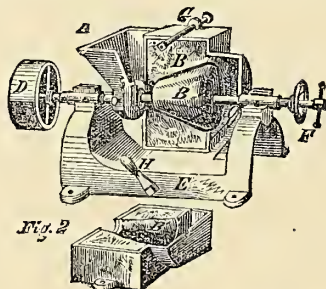
Notwithstanding all that has been said by writers and advertisers, during a few years past, respecting the advantages of having a mill upon every farm, we have been inclined to doubt whether they are generally economical, that is for persons living in the vicinity of an ordinarily good Grist Mill, run by a miller who will not take more than the legal or stipulated "toll." To attempt to manufacture flour and meal at home on every farm, is too much like sticking to the old spinning wheel and family loom, when cloth can be made so much better and cheaper at a well organized factory. As a rule, the greater the "division of labor," the better and cheaper can all mechanical operations be performed. Still, where horse or steam power machinery is employed on a farm for other purposes, and especially where a grist mill is only accessible by several miles of cartage, and that over a poor road, it will not unfrequently be found economical to do the coarser grinding and crushing on some one of the small "farm mills" that are now to be obtained quite cheaply. We fully believe in the economy of grinding, or crushing all hard skinned grains, like oats, corn, millet, etc., before feeding them to stock, and access to some kind of mill is therefore needed.

There are also many localities, especially in new, or sparsely settled countries, where, owing to the lack of flouring mills, it will be found expedient, and even necessary to grind the wheat and corn used for home consumption, with some kind of a cheap, simple flouring mill.—For some time past we have kept watch of the various cheap iron mills brought before the public, and latterly we have been inclined to give the preference to what is called the "People's Mill," where the only use, for which it is required, is to grind or crush coarse grain for farm stock. Recently we have examined and witnessed in operation a cheap mill made by Bennet Brothers, (under Sanford's Patent,) in which the grinding surfaces are of the genuine French Burr Stone. Taking into account its durability, simplicity, and especially the fact that the same mill will grind coarse meal, or fine flour if necessary, it would seem to be adapted to general use, particularly in the localities referred to above,

where grinding flour and fine meal at home may be required. Fig. 2, shows one of these mills with one side removed to exhibit the internal construction. The revolving cylinder, and bed, *B, B'*, are both made of French Burr Stone, the same material that is used for large stones in the best flouring mills. By loosening the screws on the rod *G*, the stones are separated and easily cleaned or sharpened. The grain is fed through the hopper, *A*, whence it is conveyed in to the grinding surfaces in regular quantities by means of an ingenious adjusting screw, with a large thread. The ground meal falls out through the spout, below. By turning the screw, *F*,

the grinding surfaces are brought nearer together for fine grinding, or separated for coarse stuff. By means of the band wheel, *D*, the mill is connected with horse or other power. The mill itself can be enclosed in a box 1½ by 3 feet.

In the larger cut, fig. 1, the mill is set upon a box supplied with a wire-cloth cylindrical bolt, *K*. The ground stuff falls into the cylinder at the right hand, and passing along it as it revolves, the finer flour or meal is deposited in the right hand division, *S*, of the box below; the coarser portions fall into, *T*, and the hulls or



bran fall out of the end into the measure, *R*. The other parts of the apparatus are sufficiently indicated in the engraving. These mills are of different sizes, with a guaranteed capacity of grinding from 5 to 40 or more bushels of feed per hour, according to the size, and the amount of power used. The cost varies from \$100 to \$170 each; the smallest size for horse-power being \$100 without flour bolt, and \$150 with the bolt.

How to Clean a Miller's Bolt.

To the Editor of the American Agriculturist.

In reply to the query of C. C. Fuller in the August *Agriculturist*, page 228, I would say that prevention is better than cure. The bolt should have a good supply of pure, dry air. The grinding should be done with as little friction of the stones as possible; when that is properly done, there will be but little difficulty with the bolts, so that by throwing in a quart of unground rye, when the bolts are in motion, they can be thoroughly cleaned in five minutes.

If by neglect the bolt becomes clogged, I have

used a small whip to good advantage; it should be carefully used, and the knots trimmed smooth, so as not to fracture the cloth. Sometimes a bolt can be cleaned by carefully shaving the outside with a knife or a razor; then attach a stiff brush to a handle, the length of the bolt, to clean the inside: care should be taken not to raise the fuzz. Washing should be the last resort, and if not very carefully done, it is worse than useless. If you attempt to wash the cloth without taking it from the reel, you will probably shut as many meshes, as you will open, besides the cloth will likely break by shrinking. You can, with care and clean, cold water, wash the cloth, so that it will do very well, if you take it from the reel, but then you will have to supply a piece of new cloth, to fill up the shrinkage.

G. B. SLACK.

Wayne Co., Pa.

Insurance on Farm Animals.

Buildings, vessels, and the lives of men are insured with profit to the community generally, and to the companies who engage in the business; why not insure the lives of animals? Associations for this purpose exist in Europe, and in one or two instances in this country we believe, but there is no general system of insurance for stock, such as is established to cover losses by fire. The risks and losses to which owners of horses, cattle, and other farm animals are subject, is sufficient to call for such an organization. The death of a single horse sometimes entails a loss equal to the burning of a building; a flock of sheep may be damaged hundreds of dollars in a single night by a worthless dog; and the loss of a poor man's cow is a severe family affliction. A well regulated live stock insurance company is needed to meet such cases.

We can imagine no objection against such an organization which will not apply equally against all insurance. It may be said, that insurance of animals' lives will make their owners more careless of their safety and thrift. But such exceptional cases can easily be guarded against by taking risks only up to a certain amount, say 75 per cent of the value of an animal; and furthermore, it could be expressly stipulated that proper attention should be given to the health and judicious use of the animal, under penalty of loss of the policy.

There might be a direct inducement to better care of stock, by refusing to issue policies for animals unsheltered in Winter, and otherwise neglected; or by granting them only upon payment of high rates of premium. We commend the subject to the attention of Agricultural Societies and Farmers' Clubs.

Effect of Hungarian Grass on Horses.

A few complaints of the effect of Hungarian Grass, or millet, on horses, and many inquiries on the subject have been from time to time received at the office of the *American Agriculturist*. Some have attributed the disorder called the "Stiffs" to the use of this fodder. We have not seen an animal so affected, but judge, from the description given, that it is a form of inflammation, such as might arise from over-feeding, or injudicious working of a horse after long confinement and high keeping. Millet seed is very strong feed, and when the grass is allowed to ripen, and is fed unthreshed in large quantities, its effects might be the same as feeding with corn or other highly concentrated food

From all the evidence received, it does not appear that this seed contains any injurious ingredient, but that it may have been fed too freely to horses exercised sparingly, and the "stiffs" has resulted. This view is confirmed by a communication of W. G. Clark to the *Prairie Farmer*. He says:

"One would think, from what is written, that before Hungarian Grass came, horses rarely died or were seldom sick; but since my residence in the West, twenty years, all the diseases now chargeable to this grass, have prevailed to a greater or less degree. I do not say that this grass is without its influence, but it is unjust at this time to charge it with all. *An instance at hand:* A neighbor of mine had three horses, all that he had, down with the stiffs, unable to perform duty; a friend of his calling at his house, was informed of the fact, and they went and examined the horses. His friend said that this Hungarian grass was the cause of it. The neighbor thought not; our friend was sure, and said it was killing all the horses in the country. Our neighbor thought otherwise, and informed his friend that his horses had not eaten a bite of the grass this Winter, nor ever had, as he had never raised a stalk on his place. This settled the question at once.

"The fault is in the excessive use of the grass. The horse is generally fed to repletion after standing in stables, and on hard floors, days and even weeks, without any exercise, and sometimes without sufficient water, and then perhaps taken out and put to severe service, by hands totally ignorant of his powers, abilities, and wants, and often dies, and a mysterious gloom hangs over the whole affair. I have wintered 16 to 18 head of horses and colts for the last three Winters, and in six years I have not lost a single head from any disease, and only two colts, one getting choked with a rope, and the other hooked by an ox. My best mare, two years ago, had the colic from eating soiled corn, fed to excess by boys, but with help got over it. I give all kinds of feed in proper quantities, and at proper times, and deem Hungarian grass among the best."

Dentistry for Dobbin.

Has our friend a favorite horse, whose only fault is his age? And have the old pony's teeth got out of working trim, so that he masticates his food imperfectly, and, as a consequence, is becoming somewhat gaunt, rough haired, and seedy? You begin to feel a little ashamed of him, as you drive the family carriage along the main street of the town. You think you will soon have to sell him for a younger and less sensible beast, yet you dread to think of it, so attached have you become to him.

Can't you help him, and his looks? Examine his teeth. The under jaw is growing crooked: the front teeth strike together before the grinders hit, and the incisors incline to project out of the jaw. Now, of course, this state of the teeth hinders complete chewing and mastication of his fodder; hence his digestion suffers, and nutrition fails. The upshot of the whole is that Dobbin looks "shabby."

The horse-doctors are sometimes a very useful class of men. A horse in the condition just stated, is one of their favorite subjects. Mr. Pierce, a Veterinary Surgeon, in Ohio, recommends the following treatment:

The remedy is simply to shorten the incisors by filing them off. Great care is necessary to perform the operation successfully, as there is great danger of loosening and damaging the teeth ever after. If too short, it injures their cutting the grass; if not in the right shape on the surface, it prevents cutting near the ground. The operation should be performed by one skilled in the practice, by putting the horse loosely in the stocks, and placing a leather

covered roller in his mouth, with straps attached to each end, and buckled over his head. This gag should be removed once in five minutes, to prevent cramping of the jaws. The file should be double fine, cut short and broad, with a thimble of leather over the end, to prevent wounding the gums. [There is a fine copper rasp made expressly for this purpose.—Ed.] The operator should have a vessel of water at hand to clean the file in when necessary, then hold the lip in the left hand and perform with the file in the right. After the operation is finished and the teeth well cleaned, wash out his mouth with salt and water, and give him a dose or two of alterative and tonic medicines, and in a short time your poor old horse will begin to thrive like a colt.

Stock Branding in Texas.

The great number of sheep, cattle, and horses, fed upon the wild pastures of the West and South-west, where the neighboring herds are liable to be mingled, renders the marking of each animal important. In some places ear marks are resorted to; in others branding or marking the sides; and in others both methods are combined. The double marking is preferable: 1st, from the difficulty of varying the ear marks sufficiently, and of distinguishing the animals readily, as well as the liability of the ear marks to be destroyed by accident or design; 2nd, the branding, though more conspicuous, is liable to be obliterated by the use of poor materials, by washing out, and by a coating of filth. We have before us a copy of the *Rio Grande Sentinel* of May 22, published half in English and half in Spanish, at Brownsville, Texas, which contains the announcements of the ear-marks and brands of 107 different stock feeders. Here are a few specimens:

FALCON, JOSE.... Horse and cattle brand. Ear mark: split and upper bit in the right, and under half-moon in the left. Stock at rancho de Las Pajaros, range of the Infernillo, in Nueces county.

GUERRA DOMINGO.—Horse and cattle brand: Ear mark: two bits from the right—no mark in the left. Rancho of the Indio Muerto, Nueces county. May 15-1y.

GUERRA, TOMAS.—Horse and cattle brand. Ear mark: swallow fork and two bits from the right, left ear entire. Ranch of the Indio Muerto. Nueces county. May 15y

GARZA, MARTA.—Horse and cattle brand. Ranch at Las Visnagas, Cameron county. Dec 5-1y

GALVAN, SIMON.—Horse and cattle brand. Stock at Rancho de los Indios, below Brownsville, Cameron county. Dec 5-1y

GARCIA, JOSE D.—Horse and cattle brand. Ear mark: overslope and two under bits in the right and crop and under bits in the left. Stock at the Rancho Alazan, in Nueces county, and at Santa Rosalia in Cameron county. Nov 28-1y

GARZA, MARIANO TRENINO.—Horse and cattle brand. Ear mark: crop and split in the right and underslope in the left. Stock at La Bareta and at the Tanque, Cameron county. Residence, Brownsville. Dec 25-1y

All of the 107 brands are so entirely different as not to resemble each other more than the seven given above; and the four columns of them together on a page of the paper present



as comical an appearance as a page of Chinese hieroglyphics. One card is inserted and the paper furnished for a year for \$5.

For the *American Agriculturist*.

Cheese Making.

The old Method—Article from Dairy Farmer—Preparing Rennet—Saving all the Fatty Matter, etc.

The way that our grandmothers made cheese was as follows: After the curd had come, they cut it as we do, and when it had "settled" very gently dipped off the whey—it was a spoiled cheese, they said, where the white whey was started. The curd was then dipped into a strainer in the cheese basket, and left for a while to drip, after which it was cut up in egg sized pieces, salted, and put to press. A short and summary process, certainly, compared with that of our modern vats, with their scalding and stirring method. Now if the writer in the *Dairy Farmer*, whose communication appeared in the *Agriculturist*, page 206, July No., had looked in the cheese whey of their dairy, he would have found as little cream as in his own. His coming off minus in this respect, was probably owing to two facts, first: that he skimmed his night's milk; and second, that he threw the "two or three last pails of his whey in the compost heap." It is from the latter that the most cream comes.

Some of the reasons why inexperienced cheese-makers make "one-third less than a good hand," are as follows: not enough rennet is put in, and the whey is milky; or the curd is broken up rudely, and perhaps when too cool, this also starts the white whey; or the milk is allowed to "turn" before the rennet is put in, and then the cream will ooze out after the cheese is put to press. In fact, anything that makes the whey milky, causes a deficit in the weight of the cheese.

For a large dairy, three or four rennets should be put to soak at once, and plenty of salt added. We cut them up in pieces, and let them stand in a couple of gallons of water for a week, then rub them through half a dozen more waters, about a quart at a time, which takes all the good out of the rennet, and it is of no further use. A day or two after, we skim the liquid, which is kept in a stone jar, and then having added still more salt, bottle it up in stone jugs for use. The reason of preparing so much at a time is, that rennets differ very much in strength, one is never any rule for another. Enough rennet must be put in to have the curd come in thirty to forty minutes, and having once ascertained how much it will take, the same amount will do all the way through. Every time we prepare a fresh jar of rennet, we mark the time the first morning, and perhaps have to the second, and third. It would certainly be a great desideratum to save all the fatty portion of the milk in the cheese, but I have yet to know the first cheese-maker who, putting in all the cream, and scalding the curd as we do, could accomplish it. A friend of the writer's said she could save nothing from her whey tub, and wondered how we got so much. "Do you skim your vat and save the cream?" I asked. "Yes." "Do you scald to a high temperature?" "No." "Then that's grandma's plan, and you have the same results," I replied.

In scalding a large curd in Roe's patent vat, two person's are always needed toward the latter part, one to keep the curd stirring while the other removes the fire, and draws off the hot water. If the task devolves upon one person,

the curd had better be salted with a pailful of the whey still remaining in the vat, on the same principle that the writer in the Dairy Farmer suggests, (to prevent the curd solidifying, and having to be broken up;) but contrary to his theory, the cream will rise just the same on the whey tub, for I tried this method long before I saw his article, and the curd can be made too salt with whey about it, just as we can put too much salt in the brine for our meat barrel, his opinion to the contrary notwithstanding. Again, there is no need to keep three pails of whey around the curd, it takes twice as much salt, which is sheer waste, while the best of the whey is lost, or if put in the whey tub, renders the whole unpalatable for the hogs.

M. J. STEPHENSON.

Carroll Co., Illinois.

For the American Agriculturist.

Making Sugar from Imphee and Sorghum.

Last Fall I made excellent sugar from Imphee, by the following process. A large tub that would hold seven or eight bushels, was fitted with a false bottom about two inches from the lower end or head. This was marked off in squares of two inches, and a gimlet hole bored in each square. Three thicknesses of flannel were then laid in, on which three bushels of bone black were placed, and the tub was then filled with common hard-wood charcoal; this was used for filtering. Next, a quantity of lime water was prepared by putting half a peck of lime into a large jar, and covering it with water; this was done half a day before it was wanted for use. There was also made a strong ooze of white oak bark, by pouring hot water upon it.

After having pressed out the Imphee juice into a two-bushel tub, it was tested with litmus paper, which turned from blue to red. I then added lime water until the litmus paper retained its blue color when dipped in the juice. The juice was then poured into the filtering tub. This process was repeated until the filtering tub was filled. After having let it stand about half an hour, the juice between the head and the false bottom was drawn off and poured upon the top again, and the faucet left open for the juice to run from the filter into the evaporating pan. Half a pint of the tan ooze was added to the juice, and heat was applied until it came nearly to a boil, when the fire was slackened and the whole left to stand twenty minutes. Just before the highest temperature was reached, I added the whites of four eggs well beaten and mixed with a pint of skimmed milk. Having taken off all the scum, the fire was replenished, and the boiling pushed as fast as possible, the scum being removed as it came to the surface. When the syrup was sufficiently reduced, it was removed from the fire, poured into tubs and set aside. I treated five pans of juice in this way, and all crystalized in from ten to twelve hours. I think it gave about sixty per cent of sugar. I tried one pan of sorghum juice, but it did not form sugar; though I have no doubt it would have done so, if only the three or four lower joints of the cane had been used.

To facilitate the separation of the syrup from the sugar after crystalizing, I intend next season to have a large tub made similar to the filtering tub, but with the false bottom six inches from the lower head, and only one thickness of flannel laid upon it. This will allow the syrup to drain into the lower division when it can easily be drawn off.

EZRA HINSHAW.

Kaskaskia Co., Iowa.

Wine Making.

R. Buchanan, in a former number of the Ohio Valley Farmer, says wine making is as simple as cider making. We give a few extracts from his directions. The well ripened bunches are cut from the vine, and all unsound or immature berries picked out. Each day's picking is mashed at night, by pounding in a barrel with a beetle—stem and berries—or passing them through a mill. The contents are put upon a press, where about one-third of the best juice runs off without any pressure. After the first pressing, the outer edges of the "cheese" are cut off for eight or ten inches, the parings thrown upon the top, and the screws again turned. This is repeated two or three times, but the juice from the last pressing is dark and astringent, and only capable of making an inferior wine, hence it should be kept separate. The juice from the first pressings is put in large casks, allowing space for fermentation. No brandy or sugar should be added to the best Catawba juice, as it makes a better wine without, and is strong enough to keep well. One end of a syphon is placed in the bung hole of the cask, and the other end terminates in a pail of water. The fermentation commences in a day or two, and the carbonic acid generated passes through this pipe, and bubbles up through the water in the pail. This will show how rapidly the fermentation is going on, and when it ceases. In ten to fourteen days the syphon may be removed, and the casks filled up, and the bung driven in lightly—in a month tightly. In mid-winter the wine is carefully drawn off into other casks, and the lees, added to the pomace of the grapes, are used to make brandy.

The wine will be clear and pleasant to drink in a month or two after the first fermentation ceases. A slight second fermentation takes place in the Spring, and it will only be necessary to loosen the bungs; when it is over, the wine will be clear in two or three months, and safe to bottle, but it is usually better to defer it until the following November. The only secret of wine making is, to have well ripened grapes, perfectly clean press, casks, and everything else used, and having the casks constantly *bung full* after fermentation, so that no air shall come in contact with the new wine.

When to Cut Timber.

The following statements, made by R. C. Kendall in the Country Gentleman, seem to show that the season at which timber is cut, has less influence upon its durability than is generally supposed:

"In 1812 there were built at Sackett's and Store's Harbors, on Lake Ontario, the following government vessels, constituting a portion of the fleet under the command of Commodore Chauncey during the war: the ship Madison, brigs Oneida and Sylph, and schooners Julia, Growler, and Lady of the Lake. These vessels were all built during the Winter, from timber cut and hauled directly from the woods—the Oneida having been finished and launched in sixty days from the time her keel was laid. After the war, all, except the ship Madison, were employed in the merchant service. She was condemned in 1817 as being too rotten for service. On Christmas day, 1825, the Lady of the Lake foundered in a gale, her captain, crew, and 21 passengers going to the bottom with her. She was built from the "leavings" of the Madison, and was perfectly sound when lost. The Julia was captured by Yoe; the Growler was as rotten as muck in four years from the day she was built, while at thirty years of age the Oneida and Sylph were as sound as 'hearts of oak.'

"On Lake Erie, the British flag ship, Queen Charlotte, was built in the Summer time at Malden, from timber cut in the vicinity, and used as fast as cut. Perry's flag ship, the Lawrence, was built at the same time, at Presquille, from Pennsylvania oak, used as fast as it could be cut and hauled. The Lawrence rotted in five years, while the Queen Charlotte, when sent over the Niagara Falls at the age of forty years, was hard and sound. The U. S. frigate Hudson was built in New-York, by contract, from Jersey oak cut during the Summer, and in four years she was condemned as a rotten hulk. The U. S. brig Lawrence was built in Baltimore, by contract, from Maryland oak cut in Winter. She made one cruise, and was condemned and sold for \$725, being a mass of dry rot.

"I once took a Massachusetts built ship around Cape Horn in her 43d year, built of Massachusetts oak cut in Winter, and I never saw a speck of rot about her. A twin ship built at the same time from Virginia oak cut in Summer, was as rotten as a 'pear' at nine years old.

"Of two large steamers built at the same time at the mouth of Black River, south side of Lake Erie, from timber cut in Winter, one was dead and rotten, or rather rotten and dead, in 9 years; while the other, now 26 years old, exhibits little symptoms of decay; and, as a final example, there is at this time, belonging to Baltimore, a bark trading regularly round Cape Horn, and a staunch, safe, sound craft too, (as I know, having made a voyage in her myself,) that was built from summer cut timber in 1811. Her consort, built at the same time, and of like material, went to decay in her 12th year.

"Wherefore, in view of these facts, I argue that waiting for particular signs and seasons in which to cut timber, is much like the popular superstition of sailors against sailing from port on Friday. My advice (not that I insist upon its being universally followed) is, go to sea when you are ready and the wind serves; and cut timber when it best suits your convenience, be it Spring, Summer, Fall, or Winter, as I believe the constitution of the tree itself has more to do with its after preservation, than the influence of any particular season has."

Coffee and Cotton in Africa.

To the Editor of the American Agriculturist.

In the February No., you have an article on Coffee, in which I was much interested, inasmuch as I have lived in a coffee country.

I was in Western Africa six years as a Missionary, and have had some opportunity to see and learn something of the country and people, but I wish now to speak particularly of the coffee. Your cuts are good, and your descriptions undoubtedly true as respects the growth of coffee in the countries you speak of, but as applied to Africa not altogether correct.

In Africa the coffee is indigenous—grows wild extensively in the forests and mountains. In many places it is a regular forest tree, ranging from 30 to 75 feet high, and 5 to 15 inches diameter—growing, of course, rather slim and tall in proportion, and bearing comparatively not a large amount of berries. But the grains, (smaller than the cultivated,) are said by coffee drinkers to be of as good a flavor as any other. This is the case in the country back of Sierra Leone and Liberia, as I know from my own observation. The natives do not generally use it, except in the vicinity of settlements of foreigners, but they gather and bring it down for sale.

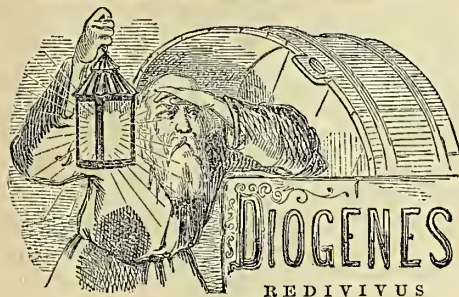
In Liberia, the coffee is extensively cultivated in farms of from 10 to 100 acres, and the trees are standing in the street and in almost every yard. When cultivated in orchards, they, of course, grow more bushy, but attain the size of apple trees 8 or 10 years old—bearing bushels of berries (instead of 2 to 4 lbs. as you speak of).

The trees are transplanted from nurseries, 8 to 10 feet apart, bear about the 3d year, and increase in amount as they increase in size. In

Bassa County, Liberia, large quantities of coffee are raised and exported.

Cotton also grows wild there, and can be cultivated to any extent. Indeed the world can be supplied with coffee, cotton, and chocolate, from Western Africa. GEORGE THOMPSON.

Blinks from a Lantern... XXVIII.



REVISITS HIGGINS' REST.

My neighbor Higgins, city merchant, country gentleman, importer of rare swine, competitor for prizes at the agricultural fairs, keeper of a thousand hens on a large speculation, still lives, though I have had nothing to say of him for a year past. In my searches for a farmer's wife, I have had to pass him by, though he has hardly been out of mind. He lost his wife a year since, and of course nothing noteworthy in the line of my researches among women, could be expected at his place. A note dated "HIGGINS' REST," received last evening, invited me up to the second-day wedding, of his new wife. I was a little taken aback at the place of date, not being acquainted with any such locality, though my travels have been extensive. On consulting Lippincott, I found Higgins, and Higgins' Point, and several Higginsvilles, but no such place as Higgins' Rest.

At last I thought the usage of the ancients might have come down to modern times, and great men, like Aristotle, Plato, Cicero, Cato, and others, might be giving names to the places of their residence. Higgins surely is man enough, not only to have a local habitation, but to have it named. Why does not Higgins' Rest sound as well as Tusculum, or Tivoli, Tees Water, or Rydal Mount, Glen Mary, or Glen Betsey. It is certainly suggestive and appropriate. Who would suspect that any body else but Higgins and his family lived there? Rest, at least to a city merchant, is suggestive of peaceful scenes in the country, where fat beeves lie ruminating under shady trees, and the sleekest pigs thrust their shortest snouts into the tallest clover.

To-day, as I rode up toward Higgins' farm, to solve my doubts, I found the matter all explained at the gate-way, at least a half mile from the mansion. The highway used to run within a stone's throw of the door, and the first Mrs. Higgins used to delight herself with a full view of all the travel, consisting, generally, of two one-horse wagons, a load of wood, or a hay cart in the course of a summer day. In the time of washing sheep, a flock of those fleecy animals not infrequently swelled the tide of travel that swept by her door. She used to say that it gave great variety to her life "to see the passing." Higgins read in some work on Landscape Gardening and Rural Architecture, that it was not in good taste to have the dwelling immediately upon the highway, that it gave an air of refinement and gentility to a house to seclude it from the world. Higgins, not dreaming that he was already quite enough out of the world, immediately took the hint, and fell into a brown study.

He had made some alterations to please his first wife, and himself more particularly. Why should he not slick up a little, and make a genteel place, and give it a name, like the places he had read of in England, to please his intended bride. He could not very well move the mansion, but he could move the highway, by and with the consent of the selectmen of the town. The road could be turned through a valley, at the foot of the swell of land upon which the mansion was built, so as to seclude him entirely from the world. The town fathers were summoned at once, and as Higgins had money, and would build the new road at his own expense, they were made to see that the new road would be shorter than the old one, and of course less expensive to keep in repair. They reported favorably, and the new road was located according to the desire of Higgins, the Rural Improver.

As I drew near the mansion, I was first struck by the entrance gate, a very substantial structure, with stone posts arched with wood, on which flamed in large golden letters, HIGGINS' REST. But for this gilding, the sign would have done credit to a railroad crossing, warning the traveler to beware of the engine.

There is something in this hanging out a sign over a country residence, that I rather like. Higgins is one of those matter-of-fact sort of characters, that leave nothing to be implied or suggested. He has every sheep marked Higgins, in full, and every horse blanket and robe; so that there may be no mistake about the ownership. H, might mean Hate, or somebody else. City people have their door plates with name in full, or in more aristocratic quarters, with only the surname, as HUBBS, as if there were but one owner of that name, worthy of consideration. Why should not a country gentleman, who has labored assiduously to make the family name honorable, hang it out at the entrance of his domain, as if he had a proper self-appreciation, and was willing to be found by his friends. It might not be known that any dwelling was to be found beyond the gate, if the fact was not announced. Now, every stranger that passes, will have the satisfaction of imagining the splendid abode that lies hid behind embowering trees, and wondering who Higgins is.

I found Higgins had mounted a new hobby, as well as married a new wife, since my last visit. The pear he considered the leading fruit, and he had been making large importations from France of large trees, both standards and dwarfs, for his pear orchard. He can never do anything by halves. In his mania for pears, he had uprooted pretty much every thing else from his fruit-yard. The beautiful row of cherry trees, that had been out five years, were cut down because they did not yield much fruit, not having had time to come into full bearing. The Isabella vines, that only failed to bear and mature their fruit, because they stood in the shade, were also torn up. The plums that failed on account of the curculio, and the peaches that were troubled with the grub, were also exterminated. He wanted some kind of fruit that was not liable to disease, and that could be depended upon for fruit in his life time. The value of trees and vines thus destroyed in a freak, was not less than two hundred dollars, to say nothing of five years' labor lost. He had a few pear trees that had been out a dozen years or more, and were beginning to bear generously. The dwarfs, he was told, he would not have to wait for, and so the most of the three hundred French trees were dwarfs.

The transplanting of course threw the trees into bearing, and like any greedy tyro, he let them bear all they would, the first year. But the ground allotted to the pear orchard, happened to be very rich, and very well adapted to the pear, so that most of the trees made wood plentifully, and the damage was less than might have been expected. Higgins was delighted with the French trees, and thought the Bartlett's, and the Duchess pears, must be of another variety, because they happened to be larger than the specimens he had seen grown on poor ground. Improving upon the work of the nurserymen, who had begun to form pyramid trees, he had trimmed all the under limbs, about as high as he could reach. He did not want any underbrush on his premises; he liked to have the fruit up where he could see it. This great change, letting the hot summer sun upon the bark of the trunk, had killed quite a number of his trees outright, but he did not suspect the cause. The broom was his model of a dwarf pear-tree, and he called upon all his friends to admire the spindling handles and the brush at the top. By thus cutting away the wood, of course the remaining limbs were thrown into bearing, and he announced this as a wonderful discovery in horticulture—"Sacrifice your wood and you get fruit," was his golden rule in pomology. I left, thinking HIGGINS' REST was a great country, if not a rural improvement.

Agricultural Literature Extraordinary.

[The following is printed just as received, *verbatim, litteratim, et spellatim*. We let it pass for once, but don't want any more such.—ED.]

To the Editor of the American Agriculturist.

In your last number you sed somethin about punctuatin, I beg leaf to add a Word about Spellin and other matters. I keap a Market Garding and have Bean hopping you would let the life of your favor shine upon me with a Sowth aspick. Taters has reseaved my intentions for some time, and the American Institute has bien pleased to Complement me on the inlargement of my kidneys. Goosberries has employed my thots much of lait, and my experience shows that a green Goosberry is of a larger size than a Red, and almost too large for bottlin. Cherries has bust a good deel especially the black arts. Strawberries has magnified considerably, and I spect they will ere long object to lyin too in a bed. Cucumbers are as usual, of a singular sharp flavor, if the vinegar is good. I have an abundance of Red and white eurrancy, which goes well if enuff sugar is mixed in. My pitehes has suffered from the yellows except those trained on the Wall.

Not to be long for your pashance, I have been told of a discovery that if you take a sweet apple and a sour apple, cut em in too, and tie the sweet and sour together and plant them, you will get an apple tree bearin fruit, one side sweet and the other sour. This is no doubt true, bein in the nineteenth century, and it will be a grate benefit to the risin generation. Pees has done well. Grate misehef has been dun by the birds. As to Graps, they dun wel till the Rust came, and besides thero was a grate Robin by thievin Boys.

My wife had a Kat that dyed last summer, and was buried in the Garding, for the sake of enriehment to the goosberries,—the red kind. Strange to say, this year, the caterpillars on the bushes was herry, and may n't it have been all owin to the Kat? Wishin you improvement in the litterary Department of your paper, I remain

Your obedient sarvint, (not) JOHN SATTIE.

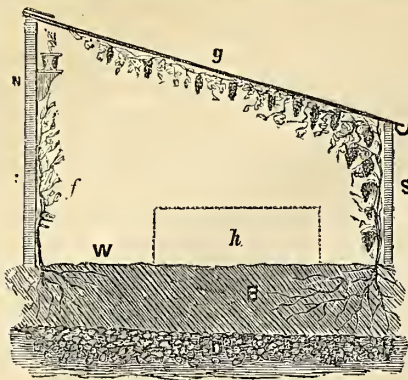


Fig. 1.

Cheap and Effective Cold Graperies, Cold Frames, Hot-Beds, etc., for the Million.

Very few people have any idea of the small cost and trouble of providing certain contrivances for facilitating the growth of grapes, various fruits, early vegetables, etc., or of the convenience and profitableness of these structures. Let us look into the matter a little.

A HOT-BED, in its simplest form, is a mass of fermenting manure placed on (or in) the ground and covered with soil, upon which are put various seeds and plants. A bank of earth, or a board box around the sides, and a common window sash of large size placed over the top to shut out frosts, and let in plenty of sun-light, complete the structure. With so simple and cheap an apparatus as this, every family may secure a supply of plants of various kinds, lettuce, cabbages, tomatoes, flowers, etc., to be transferred to the open ground when danger of frost is past; and in this way, at the cost of very little time and money, the table may be supplied with garden vegetables in Spring and early Summer, long before anything can be obtained from open ground culture. The warmth given out to the soil by the gentle fermentation of the manure, acts like magic upon the plants growing above it. The whole operation is so simple that the most unsophisticated cultivator need have little fear of failure, and the advantages are so great that no one should fail to try it. At the cost of three or four dollars, a large sash frame specially fitted for the purpose may be procured of any sash maker. The box required can be constructed by any one who can saw a rough board in two and nail it together at the corners. Hot-beds are specially adapted to February, March, or the first of April, according to the latitude, and we defer further remarks to the appropriate season.

COLD FRAMES are merely wooden boxes (or pits built of sods,) and supplied with movable glass covers. These afford sufficient protection from cold, to promote the early growth of many kinds of vegetables and ornamental plants. By removing or partly removing the cover during warm days, the air within can be so regulated that many plants can be grown which it would be next to impossible to cultivate well in the open ground. Plants started in little earthen pots, or wooden boxes, can be set in these frames for protection at night and in cold frosty weather. By the use of such frames we have this year had many plants in bloom by the time that other seed taken from the same lot, and sown in the open ground, had just begun to vegetate.

COLD GRAPERIES are merely Cold Frames of a larger size. In a cold graperies of moderate size and erected at small cost, may also be combined the advantages of a hot-bed, and a com-

mon cold frame. Cold graperies are made of various sizes and forms, and, according to their architectural beauty and the area they cover, may cost all the way from \$40 or \$50 to \$500 or more. We propose here to describe a cheap simple form, one easily constructed and adapted to the wants of the great mass of people in limited or straitened circumstances. And to all such let us say that the subject is worthy of study, for these structures are not merely luxuries or conveniences, but are a source of profit.

SIZE.—This will depend entirely upon the means and the requirements of the owner. Fig. 1 shows a cross section, or end view, of a convenient form. The south wall, S, should be high enough above the ground to give about 4 feet clear under the glass. The rear or north wall, N, should be 7 to 8 feet high in the clear. The width of the house between these walls may be 10 to 12 feet; 10 feet is wide enough as a general thing. The length of the structure may be ten, twenty, or fifty feet, or more.

THE WALLS.—These may be of wood, single or double boarded; or of brick; or of stone. The rear wall, N, may be the side of a house, barn, or other structure. In one of the most effective, and yet cheapest cold graperies we have seen, the walls were made entirely of sods cut out in square pieces and piled one upon another. In this case posts were driven down at the corners and along the sides, or rather they were set like fence posts, and plates and rafters were spiked or mortised upon the tops after sawing them off square. Sods were then piled up between the posts and around them for the walls. Such walls are rather ornamental, for the sods may be kept green, if they come from strong soil. Salt meadow sods may also be used. They may require some care to renew portions which fail, but they are comparatively durable. (Walls of forts built of this material in Revolutionary times, are still standing.) The enclosed space seems even better adapted to plants, than when surrounded by brick or stone walls. Good strong posts firmly set at the corners, and at needed intervals along the sides, furnish abundant support to the roof.

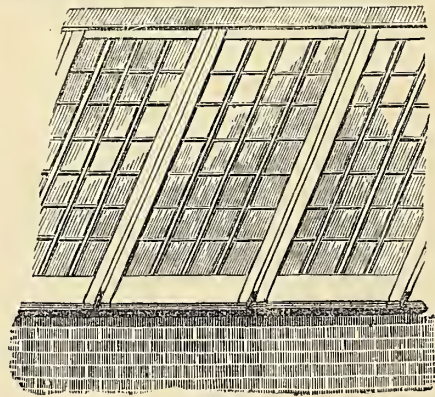


Fig. 2.

THE GLASS COVERING.—This consists essentially of long sashes made with strong frames, and running up from the front to the rear wall, as shown in fig. 2. A top view of one of these sashes is shown in fig. 3. The length will depend upon the width of the house, and the width and size of the glass, the strength of the sash, etc. There may be four, five, or six panes of glass in width running up and down the roof in each sash. Generally the narrower the several sashes the more convenient are they for handling. If 6x8 glass be used, five panes would cover 30 inches, and 10 inches more for the frame and string pieces would make a sash 40

inches wide, which is a convenient width, though they would not be very unwieldy with another tier of glass, or the use of glass an inch wider. The sash frame, should be made of strong 2-inch stuff, the top and bottom pieces provided with tenons at the ends to fit into mortises in the side pieces. The top piece may be, say 6 inches wide to lay upon the upper plate. The bottom piece should be, say 8 inches wide, to extend over the lower plate and shed off water. The side strips may be 2½ to 3 inches wide, and grooved along the inside upper corners for the glass to lie in. Fig. 5 shows an end view. The middle strips or string pieces need to be somewhat strong, say 1½ or 2 inches wide, and the two upper corners grooved for the glass. Fig. 6 gives an end view. The glass is laid in the frame thus made, beginning at the bottom, and lapping, say ¼ inch upon the next piece, in the manner of laying shingles, so as to carry off water. The glass is first held in place by brads or bits of tin, and then secured with putty. As the lapping of the glass prevents its lying down firmly in its groove, the putty should be put on soft, or better, bed the glass in putty, so that it will work around the edge, to fill up the space under the glass. The glass may be common window glass, but should be measurably free from lenses, (oval or round imperfections,) which would concentrate the light upon points, and burn the plants at these points. If clear glass be used, a screen of cloth (sheeting), or a coat of whitewash will be needed to obstruct the free passage of the hot sun's rays. Corrugated or ground glass made expressly for the purpose is now to be obtained cheaply. A cap from the upper plate or ridge pole should project over the sashes to throw the water on to them from the top.

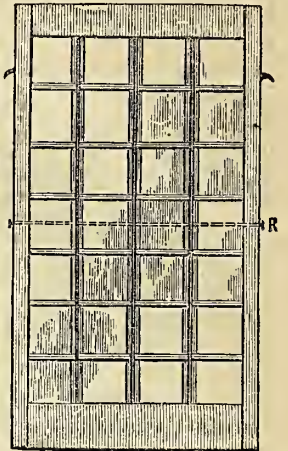


Fig. 3.

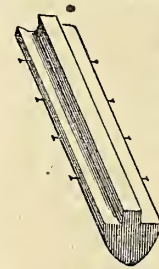


Fig. 4.

A gutter for catching the water from the sashes, as shown in fig. 1, is a desideratum. This water may be carried to the drain, or it may be conducted into a cistern or into hogsheds within the building, and thus save bringing in water from elsewhere to use on the plants. An iron rod, (R, fig. 3,) is passed through the sash to give additional strength.

Rafters are needed between the several sashes. These should be of strong scantling, say 4x5, or better, 4x6 inches. They are to be cut in the form shown by fig. 4. The under corners of the rafters are rounded off as shown in fig. 4, so that the light may pass in freely around them. The little pins or staples projecting from the sides are for holding up the sashes, as described below. The sashes are held in place by a variety of contrivances, such as ropes and pulleys, etc. It is necessary to have them easily moved up and down, and held at different points, so as to let in more or less air as needed by the state of the weather. One of the simplest methods is, to fasten little hooks



Fig. 6. moved up and down, and held at different points, so as to let in more or less air as needed by the state of the weather. One of the simplest methods is, to fasten little hooks

into the sides of the sash frames near the top. These catch upon the staples or spikes driven along the sides of the rafters. To lower the sash, it is then only necessary to raise it up and slide it down as far as needed, and let its hooks catch upon the staples or spikes at any point on the rafters that may be desired.

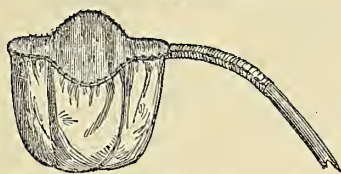
THE INSIDE ARRANGEMENT is shown in fig. 1. Grapes are trained up the south or low wall, and then along under the glass. Against the high north wall may be trained grapes, or better, apricots, peaches, or other fruit trees. Shelves for potted plants—early beans, strawberries, cucumbers, etc.—may be arranged along the upper part of this wall. A plank walk, (*w*), should run through the center or nearer the north wall. This should be of narrow plank or strong boards laid $\frac{1}{2}$ or $\frac{3}{4}$ inch apart, and raised a few inches above the soil—on short cross ties or blocks of scantling or round poles—so as to allow a free circulation of air and light under and between the planks. For Winter or Spring use, hot-beds, (*h*), indicated by the dotted line, may be placed within the grapery, and along its whole length by simply driving down stakes and setting boards on edge for the sides, or by nailing boards together. These are to be filled with fermenting manure in the usual manner; they afford room for the early starting of a full supply of vegetables, etc. They should be kept far enough from the south wall not to interfere with the grape vines. As soon as they can be dispensed with, the contents are to be removed, or dug into the soil. The space used by the hot-beds may be taken for potted plants in Autumn and Winter.

THE GROUND WORK OR SOIL.—We have purposely begun to build our house at the top, in order to first show the reader that the visible structure, with its frame-work, glass work, etc., is only a simple matter after all. Let us now begin at the beginning, viz., the preparation of the soil. In fig. 1, we have provided for what is technically called the "Border," (that is the soil in which the plants grow) entirely *within* the building. Many persons make the building narrower, and place the main border along the outside of the south wall, and bring the vines in through openings in the wall, near the ground. We think it preferable to keep the border on the inside, as we then have it under better control for preserving a more uniform temperature for both roots and branches. With the border on the outside, the roots are kept much colder than the foliage within, especially during Winter and Spring, which is injurious.

B, represents the border or soil for the roots of vines and plants. This should be prepared at least three feet deep, and be provided with good drainage (*D*) at the bottom, having a free outlet to carry off water. The drain may be made of loose stones, broken bricks, or oyster shells, laid in 8 to 12 inches in depth, or even more, covering them with inverted sods or wood shavings. For the soil above (*B*), fill in a mixture of first-rate surface soil *largely* mixed with sods, rotten manure, and broken or ground bones. The main thing is to secure a good, substantial, but friable soil, containing abundance of decaying vegetable matter, just such as is furnished by rotting sods and leaves, with animal manure enough to give the plants a start at first, and bones to give steady nutriment by their gradual decay.

GROWING GRAPES FOR FORCING.—At a recent meeting of the Brooklyn Horticultural Association, Mr. George Hamlyn, stated that he grows all his grapes for forcing, in large pots. He said

that he has them in full bearing in fifteen months from the cutting, and as soon as the fruit is gathered, he throws them away and starts new ones in the same pots. By keeping up a succession, he always has plenty of fruit, and in much less time than by the ordinary method. The advantages in pot culture of grapes are readily seen, and this method is growing in favor; but we can not perceive the economy of throwing away plants after one fruiting. By proper pruning the vine may be kept in bearing year after year, and still, if necessary, be confined to a limited space.

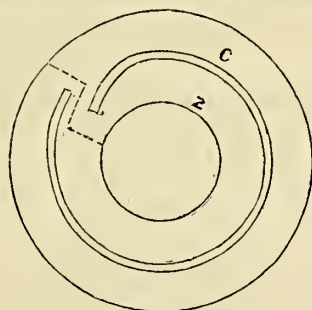


Another Fruit Gatherer.

Mr. Calvin Hatch, of Hartford Co., Conn., writes that he first used the fruit picker described on page 209, *July Agriculturist*, but found that from the position of some limbs there was often danger of breaking them, if the fruit were always pulled off. To remedy this, he constructed the picker with a narrow space at each end, so that the fruit can be either *pulled* or *pushed* off. He has used one of this form during ten years and likes it much. It has also taken several premiums. Being very simple and unpatented any person can construct one. The rim can be made of strong wire, or hoop iron, with a canvas or other bag suspended to catch the fruit.

Galvanism for Slugs and Snails.

A writer in the London Gardener's Chronicle, thus describes a galvanic circle which he used around choice plants, as a preventive against slugs and snails. Procure a flat ring of zinc, large enough to encircle the plant; make a slit in the ring after the manner of a key ring, so that it can be put around the stem of the plant, and then rest upon the ground. Now twist a copper wire into a ring, very nearly of the same circumference as the flat zinc ring, and putting it round the plant, let it rest upon the zinc. No slug or snail will cross that magic circle; they can drag their slimy way across the zinc well enough, but the moment they come in contact with the copper and zinc at the same



time, they will receive a galvanic shock, and recoil from the barrier. In the above illustration, *z* is the zinc, and *c* the copper wire. The broken line on the left shows the slit in the zinc. *

[The above, if rightly arranged, may answer as a pretty scientific plaything, and as such we let it pass. The "slimy slugs and snails" chiefly trouble us in the strawberry patch; and a nice time we should have of it, if we undertook to double ring each stalk or hill, and to keep boys

enough around to hold up the pendant leaves, and the runners, so that the aforesaid "slimy slugs and snails" should not climb them.—*Pub.*

A Hint on Striking Cuttings.

Messrs. Dailedouze and Zeller, of Queens Co., N. Y., who are among the most successful rose growers in this country, propagate from cuttings in the following manner. For hardly out-door roses, they take cuttings in the Fall, of the present year's growth, insert them in ordinary good soil, in a bed which can be covered by a sash, and leave them until Spring. Most of them will be rooted and ready to plant out as soon as the ground is suitable. For pot roses in green-houses, cuttings are made in the Spring, and put in sand in the green-house, where they grow very easily. All plants, particularly all hardy varieties, if taken up in the Fall and potted, and kept in the green-house until Spring, will yield cuttings which will root much more readily than those taken from plants kept in the open air. The tree pæony, and many other plants which are propagated from cuttings with difficulty, can be grown in this way.

Cultivation of Raspberries.

From the uncertainties attending the culture of *any one* kind of fruit, it is desirable for the farmer and gardener to have as large a variety in his grounds as possible. The smaller fruits, such as strawberries, raspberries and currants, seem to be among the most reliable. With a little care, the raspberry may uniformly be depended on to yield a crop every year. It comes at a season when other fruit is scarce; it takes up but little room in a garden; it is only light labor to gather the berries; the market profits are large; and, for one's own table, the fruit is healthful, delicious, and every way desirable.

The raspberry will grow on almost any ground, but prefers a deep, rich, and rather moist soil. Some market-gardeners prefer, when they can get it, a reclaimed swamp, well drained, for growing these berries on a large scale. The soil is deep, rich, rather moist, and requires no manure, for many years. The raspberry should not be planted in a very dry spot, or immediately under the reflected light and heat of a wall or high fence. If the soil is not naturally deep and fertile, cultivation should make it so. These plants have two sorts of roots, the one going down to a considerable depth in search of moisture, the other running horizontally near the surface. The ground should be prepared so as to unite both of these requirements. If it is not, the canes will make only a moderate growth, the fruit will be smaller, and much of it will dry up before it is fully ripe. The fruit of the garden raspberry should differ from the wild, in size as well as in quality, and this can be secured by generous cultivation. In addition to trenching of the ground, old manure should be applied and well worked in.

Some of the finest raspberries we ever saw, were grown on the North and East sides of buildings, where they had partial shade. And every berry hunting child knows that the largest wild fruit is found on the outskirts of forests, or behind old fences and stumps. Where a position in the garden a little shaded can be had, (though not directly under the drip of trees,) we should advise to use it, and all the more because such positions are not desirable for the ordinary plants of a garden. Experiments have been tried at irrigating the ground during the fruiting

time, and the berries have been much enlarged: in their sweetness probably there was no gain. Mulching has been found very useful.

To the above hints applicable especially to garden culture, we add, for the field, the advice of a large grower, Daniel Hughes, of Haverstraw, N. Y. He says: "A deep, alluvial soil, rich in vegetable mold, will require a light dressing of well rotted stable manure, with a top-dressing of ashes immediately after planting, employing from ten to thirty bushels to the acre. For a light sand or loam, a more liberal dressing should be given: to four loads of vegetable muck, add one load of rich barn manure, and from four to eight bushels of unleached ashes; and if lime is cheap, it may be advantageously used to twice the amount of ashes, together with salt-lye, which is the best addition to the compost that can be used for this fruit. Mulch the roots well, to keep the ground free from weeds; but the grand point to be insisted on, is depth of culture."

Spring is the best season for planting, though Fall will answer, if the roots are well protected in the Winter following. Set them in rows four feet wide. Some growers place them also in hills, three or four canes to a hill, for convenience of tying up to a central stake. A good way of supporting the vines, is to set stout, well braced posts at each end of the rows, also to drive in stakes firmly at every thirty feet in the row, and then to stretch wires from post to post, at about three and a half feet from the ground: the wires also to be fastened to the intermediate stakes. Some persons use two wires. The canes are to be tied up to the wires with bass-matting or soft twine.

In the Fall of each year, the canes should be bent to the ground, fastened down by short stakes, and then covered with a little litter or dirt. The tenderer sorts absolutely require this protection, and all (unless we except the Native Black Cap, and Allen's,) are benefited by it. In the Fall, also, dress the whole ground with manure, to be forked in next Spring. Some advise a mixture of spent tan-bark and the chippings of leather to compost with the barn manure. In the Spring, after hard frosts are over, uncover the plants, and tie up the canes to the stakes or wires. Where the canes are very long, clip their extremities.

VARIETIES: Tastes differ here as elsewhere, but the *Red Antwerp*, the *Hudson River Antwerp*, and the *Brinckle's Orange*, are universal favorites. The *Franconia* is a good market berry, resembling the Antwerp, but firmer, and ripening a week later. *Knevel's Giant* is large, very productive, and particularly fine for preserving. The *Yellow Antwerp* is delicately flavored and sweeter than many others, but not a profuse bearer. *Allen's* is inferior in quality to the foregoing, but is very hardy. *Fastolf*, an English variety, resembles Red Antwerp, but is a little richer and softer.

Notes on Varieties of Raspberries.

To the above, written by an associate, who has had considerable experience in the growth of small fruits, we will add from our memorandum book some notes made in July, while our raspberries were in bearing. The vines referred to were set in the Spring of 1860, in the open ground, all on the same soil, and having had the same treatment:

Franconia.—Canes vigorous; yield well; fruit large, dark red, and of firm flesh and good flavor.

October Yellow.—Canes moderately strong; fruit a beautiful yellow or orange color, of medium size, and second or third rate in flavor.

Bagley's Ever-bearing.—Grows very vigorously, rather too much so; fruit not abundant, small, red, not very good flavor; only recommendation is the vigor and hardiness of the plants, and the long continuance of yielding—we find now ripe fruit, flowers, and flower buds.

Catawissa.—Very free grower, and pretty free bearer; fruit medium or small size, dark colored, flavor not the best. Somewhat superior, on the whole, to the common wild black cap.

Merville de 4 Seasons.—Fair grower and bearer; fruit large, light color, soft, and flavor rather insipid.

Red Antwerp (pure).—Canes vigorous; free bearer; fruit fair size or full medium, solid, and good flavor.

President Cope.—Moderately vigorous; bears moderately; fruit large, red, tender, flavor nothing extra.

Fastolf.—Decidedly a favorite; a free grower and bearer; fruit large and flavor superior, rather too tender to carry to a distant market, but one of the best for home use, and for a near market.

Brinckle's Orange.—Very good; free grower and bearer; fruit good size, beautiful orange color, somewhat solid, flavor superior.

Victoria, or Belle de Fontenay.—A free grower, very hardy, and free bearer; fruit large, red, solid, good flavor—perhaps not quite equal to the Fastolf. This is a new variety, imported, we believe. They chanced to be left entirely unprotected during the last cold Winter, and suffered not the least, but are bearing abundantly, and have fruit just setting for a continuance of the bearing season; it is apparently one of the most promising for general culture.

For the American Agriculturist.

Can Fruit be grown in Minnesota?

Trials with Grapes, Pears, Cherries, Blackberries, etc.

I think that the people of Minnesota generally are too ready to accept the opinion that fruit can not be grown here, without sufficiently experimenting. I came to Minnesota four years ago, from Connecticut, where fruit is plenty, and I was not satisfied to believe that fruit could not be grown here, until I had made the experiment. I have, during that time, ripened three varieties of grapes—amounting to over a bushel in all. They were the Isabella, Catawba, and Diana; I have trained the Isabella upon trellises, and they have grown annually a length of twenty feet—requiring cutting back in the Autumn, of course. The other varieties I train upon the renewal system. I have also under cultivation the Delaware, Hartford Prolific, Anna, Rebecca, Chappala, Clinton, Arkansas, and some seedlings I am experimenting with, all of which are flourishing finely. I was told that they would die the first Winter, but I have banded them in dry straw, and laid them down, and they have come out fresh and bright every Spring.

I have also a number of fine pear and cherry trees growing, all of which I find no trouble in preserving by binding the trunk with straw rope. I have two rows of New-Rochelle blackberries 70 feet long, from which I picked a bushel of berries last year, it being the second year of their growth. They require protection during Winter. My course with them is as follows: In the Autumn, after cutting them back sufficiently to allow them to harden, I disconnect them from the wire to which they have been trained, and remove the earth from the base sufficiently to allow them to bend without breaking; then

bend them down close to the ground, and throw some straw over them; a few shovelfuls of dirt upon this completes the work. They should be left to stand as long as possible, in order that the wood may harden, yet care should be taken not to work at them when frozen, as there is great danger of breaking the lateral branches, which are to produce the fruit the next season.

As I have but two acres of ground for all my gardening and fruit-growing purposes, my experiments with trees are necessarily confined to dwarfs. They have all, thus far, been highly satisfactory, and I think with care fruit can be grown with good success in Minnesota. In a recent trip through the country I noticed many fine orchards started, which promise well. I was also highly pleased to find in not a few farm-houses in Minnesota my old friend and constant companion, counselor and guide, the *American Agriculturist*. J. F.

Mushrooms for the Table.

Many persons refrain from eating the mushroom, through fear of its poisonous qualities, and others through ignorance of its value for culinary purposes. The true mushroom, (*agaricus campestris*), is not poisonous. But there are several species of fungi resembling it, popularly called toad-stools, which are hurtful. The true article may be distinguished from the false, by its small, round, brownish cap, stem from two to three inches high, and its gills a fine pink hue; while the toad-stool is simply dark, dingy-colored, five or six inches high, is slimy to the touch, and has rather a disagreeable odor. The toad-stool grows generally in the forest, while the mushroom is always found in rich, open pasture lands.

Of the true mushroom, Fessenden says there are about three hundred species native to Great Britain. The months in which it most abounds are August and September; but it is grown artificially, both in England and this country, all the year round, and forms a lucrative crop to the market-gardener. In its taste, it approaches the nearest to animal matter of any vegetable production. It makes an excellent catchup, is highly esteemed as a pickle, and when stewed in rich gravies, makes a fine relish.

As the mushroom is not found wild, except for a short period, we will give our readers the common mode of domestic cultivation. It is propagated by what the gardeners term *spawn*. This is a white, thready substance, found in the Summer in old pastures where the mushroom is wont to grow, in masses of rotten horse dung, sometimes under stable-floors, and in the remains of spent hot-beds. Only a small quantity is needed to begin with. Prepare a compost, of equal parts of fresh horse manure, cow dung, loam, and eut straw. When mashed well together, and partly dried, cut them into square blocks, like bricks, and then insert two or three pieces of old spawn, say of the size of a walnut, into different parts of each brick. The bricks may then be left a few days to dry. After this, place them in a gentle hot-bed, which will cause the spawn to penetrate and cover each block. These blocks will preserve their vegetative powers for several years. These blocks can be purchased ready for use, at many of the leading agricultural and horticultural establishments.

We are now provided with material for growing mushrooms the year round. Suppose we wish to raise a crop this Fall. Prepare a bed for the purpose under a shed or in a dry cellar

The bed may be four feet wide, and eight or ten feet long; this will supply an ordinary family. Let the sides rise perpendicularly for one foot, and then slope gradually to the center, say a foot higher, making four sloping surfaces. This bed should be of horse-dung, well forked up and pressed down equally on all sides. Cover it with straw for ten days, after which, the excess of heat having passed off, the straw may be removed, and an inch and a half of rich mold put on. Break a block of spawn into pieces the size of a chestnut, and plant them in this mold, in rows six inches apart. One block will plant a surface four feet square. Then cover with another inch of loam, and place over this a layer of straw, several inches thick. The after cultivation consists in keeping up an even temperature, say about 65°, and in watering the bed occasionally if it becomes dry. The plants will appear in four or five weeks, and in two days after their first appearance, will be ready for use. The crop may be gathered as often as desired, through a period of several months.

Our hints will not be satisfactory to the ladies, unless we add a few words in reference to preparing the mushroom for the table.

For *broiling*, cut off the stems, wash the caps in fresh water, place them on the gridiron over a slow fire; season with pepper, salt, and butter, and serve up like broiled steak. For *stewing*, stem, peel, and wash, then lay in a sauce-pan, partly cover with water, and add a little salt. Serve up on toast, adding butter, pepper, cinnamon, and wine if taste and conscience approve. For making a *catchup*, put down the heads in layers of salt for one week, then mash them and add cinnamon, pepper, and cloves, at the rate of one teaspoonful of pepper, a quarter of a teaspoonful each of cloves and cinnamon, to a quart of mushrooms, mix well together, and set the vessel containing them into boiling water for three hours. Then strain through a coarse cloth, and boil again for half an hour, skimming off impurities. Bottle and cork tight, and stow away for future use.

To Grow Verbenas.

Conflicting reports reach us, this Summer, respecting the verberna. In some quarters, we are told, the plants have rotted off, in others they have burned out, in others succeeded moderately well, in others insects and mildew have infested them, and in still others they have been a blaze of bloom all Summer long.

Of course, we can not answer all the numerous inquiries as to the cause of these varying experiences. But a few general principles may be stated, which apply to a multitude of cases. As a general rule (not forgetting the exceptions,) native seedlings thrive better in our climate than foreign varieties. And, since our Summers are confessedly better suited to the verberna than the English, and as seeds ripen here so readily, we see not why we should depend on foreign sources for our new plants. Why, indeed, should we not send our seedlings to the foreign market?

Again, success with the verberna depends much on the character of the soil. It should not be rich. This plant dislikes manure; and besides, if the soil is quite strong, we get a great growth of vines and only a few blossoms. A common sandy loam is what is wanted; or, to follow high authority, "two parts loam, two of leaf-mold, with an admixture of sand." Let the border be dry, and open on all sides to the sun. There is, also, this peculiarity to be noted, that verbenas seldom succeed well in the same

ground more than two years in succession. Either the plants should be set in new beds every other year, or the old beds should have the soil entirely renewed.

Many persons get only small, feeble, rusty plants from the florist, and then set them out quite late in the Summer. Instead of this, vigorous plants should be got early in the Spring, then shifted into larger pots, be kept in vigorous growth, and be exposed gradually to the open air for a week or ten days before being bedded out. They are hardier than most other bedding-plants, and may be set out early. Thus managed, they will become large plants early in the Summer, and will make a vigorous show of flowers. This last hint we consider of great importance. Of course, the shoots must be pegged down as they grow. With these directions all followed out, success may at least in all ordinary cases be depended on.

House Plants for Winter.

Many of our readers, we hope, will give themselves the pleasure of having a few plants in the window to cheer the long Winter season not far before us. No passer-by sees flowers peeping through the frosted window, without a new feeling of cheerfulness, and without reflecting that such a household possesses a certain sort of refinement and happiness which others do not. An old German poet sings,

"A flower do but place near thy window glass,
And through it no image of evil shall pass."

But we do not care, just now, to plead for window plants. We know that many of our readers are determined to treat themselves to this luxury, and will thank us for any hints that may be given.

It is not a good practice, generally, to use plants for Winter blooming, which have been in flower throughout the Summer. The attempt to do so will be only partially successful, at best, and the plants will suffer from the unnatural forcing. If such are to be used at all, they should be taken up quite early in the Fall, (say Sept. 1st,) potted and set away in partial shade, to rest. On the approach of frosty nights, they should go into a cold frame or other sheltered spot, and rest for another month or two. By December, or January, they may be brought into a warm room, and encouraged to grow.

A better way, however, is to have two sets of plants, the winter-bloomers being kept in a comparatively dormant state during the Summer. They may be plunged in coal ashes, on the north side of a building, and should receive only just enough water to keep them from wilting. A few plants, like the *Petunia* and *Scarlet Geraniums*, will bloom a large part of the year. To prepare them well for Winter flowering, begin early in September; cut a circle around each plant with a sharp spade, severing the roots so that they can be got into the intended pot. Now, water the plant well, and young roots will begin to shoot out within the proposed ball of earth. In a month's time, cut back about half of the top, and new shoots will strike out, and flower buds soon appear. If this treatment is neglected, and the plants are taken up at the beginning of Winter, it will take a long time for them to recover, and their blossoms will not appear until nearly Spring. If verbenas are wanted for Winter blooming, they should be got ready at once. Find runners that are well rooted, cut them off above and below a joint, and pot in a sandy loam. Plunge the pots in the border for a few weeks until the

plants are well established, then remove to the frame and subsequently to the parlor window.

Success in window gardening depends also upon the right management of light, heat and water, and air, etc., but upon these points we can better enlarge at the appropriate time.

Look to the Dahlias.

They have now made a rampant growth, and are beginning to bloom. As high winds prevail during this month, special pains will need to be taken to prevent their breaking down the plants. See too it that the central stake is strong and driven deep into the ground. Tie up the main stalk to the stake with good stout cords. If one would be doubly sure, let him set three good stakes five or six feet high, in a triangle around each plant, then take slender hoops and encircle the stakes at the middle and top of each plant. The lateral branches will then lean upon the hoops and stakes, and none be split off. The foliage of the dahlia will soon conceal the hoops.

If the season be very dry, resort must be had to watering. First, give the ground a good hoeing, then water thoroughly, and follow this with a mulching of hay or straw. Have an eye to insects, for during these dry sunny days, they will be on hand. The grub which eats through the stalk, is the worst fellow we have to deal with, as he can seldom be found. The bugs which eat the young buds and the rays of the opening flowers, are vexatious, but can be subdued by—"eternal vigilance." Look over the plants early in the morning, and catch them (if you can) between thumb and finger. Dust the leaves with ashes or air-slaked lime, while the dew is on. Syringe the foliage with an occasional dose of soapsuds. This should be followed with clear water.

Position of Flower Beds.

On visiting a friend's garden, recently, he asked us why it was that two flower beds which he pointed out, and which lay near together, should look so different. The soil in both was alike, and the plants in them quite similar, yet one presented a glowing mass of bloom, while the other made but little show. What could make the difference?

As the path from which we viewed them ran East and West between the beds, it occurred to us that perhaps the difference was owing to the different points from which the flowers were viewed. And so, stepping round to the South side of the disparaged border, the scene was changed—the blossoms upon it were as brilliant as those on the other. Many flowers turn their faces to the sun, and hence, if the spectator stands on the North side of the border, he sees but little of their beauty. The discovery of this fact has led us, this year, to change the position of two verberna beds, much to their improvement and our own gratification.

Another hint: It is not essential that all flowering plants should have a back-ground, but they are much benefited by it. We were much struck, many years ago, in Mr. Downing's grounds, by the brilliant effect of a mass of scarlet geraniums set before a group of evergreens; and we annually reproduce that scene in our own garden. This end can be reached by setting small shrubs in the rear of a flower-border, and blooming plants in front.

If a man cheats you once, blame him; if a second time, blame yourself.



Fig. 1.

Flowers in the House—How to Keep Bouquets—Table Decorations.

Beauty need not cost money. Mr. Broadacre's fine pictures in gilt frames, for which he paid thousands of dollars, can not compare for skill or elegance with a bouquet gathered from the Widow Small's garden; and the most beautiful sculptures are put to shame by the delicate tracery of a wild flower. When it is so easy to

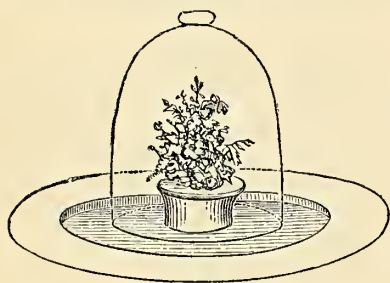


Fig. 2.

graciously and cultivate the love of the beautiful, it amounts to a positive duty. A man or a woman has no right to grow up coarse when the Creator has surrounded him or her with refining influences. We never see a man with a nosegay, or a single rosebud in his buttonhole without thinking better of him; it is like the gleam of light through a crevice, that tells of warmth and good cheer within. This part of the subject is tempting to the pen, but limited space compels us to come at once to the practical. First then, through the season of flowers use them as ornaments of the dwelling. Keep a fresh bouquet in the living room, for your own gratification, and if flowers are plenty, in the parlor for the pleasure of occasional visitors.

To renew the flowers daily, is quite a tax on a small garden, which ought not to be entirely despoiled, for beauty is wanted *around* as well as *in* the dwelling. By a little management, cut flowers may be kept fresh several days. The cause of wilting, is loss of the water which fills the tissues of the leaves. Evaporation goes on as rapidly as from the growing plant, and there

being no roots to supply the loss, the petals and other organs soon shrivel. This is partly remedied by placing the stems in water, but to prolong the period of preservation, it is necessary to hinder the evaporation from the plant. This can be done very readily by setting the vessel containing the flowers on a plate or pan containing a little water, and inverting a bell glass or jar over the bouquet. Water enough should be kept in the plate, to rise above the edge of the bell-glass. With this arrangement, as shown in Fig. 2, the external air is excluded, and the air within the bell-glass soon becomes saturated with moisture, so that evaporation from the flowers is prevented, and they remain plump and firm until chemical changes cause decay.

It is often desirable to carry or send flowers to

a distance, but they give little satisfaction if they arrive faded and wilted. They are often surrounded with moss, cotton, or soft paper, or a handkerchief is tied over the bunch to preserve them from injury. Such treatment only increases the difficulty. The covering of cotton, etc., readily absorbs the moisture of plants, and they must droop. If to be carried far, let them not be made into a bouquet but laid loosely in a box with a tight fitting cover. Wood is better than paper, as it absorbs moisture less readily. Line the box with folds of wet flannel, or paper, or place in it a sponge saturated with water. In absence of any thing better, throw in some fresh succulent leaves, or even grass, which will give off moisture and partly prevent evaporation from the flowers. For botanists or others who wish to preserve specimens from wilting, an excellent article is a bag of India rubber cloth, made like a traveling bag, or so that the mouth can be closed tightly, which will ensure the desirable moist atmosphere.

Flowers are nowhere more beautiful than when used as decorations for the table. Eating and drinking are purely animal exercises, and



Fig. 3.

the pleasures they bring are lowest in the scale of enjoyments. We should seek to surround

them with refining influences that shall minister to the better nature, and keep us up to our proper level: and what can be better fitted than flowers to recall the thoughts from groveling associations with meats and drinks? These



Fig. 4.

ideas are appreciated and acted upon among the cultivated of every country. Flowers mingled with fruits as table decorations, are found at all great entertainments. Why should they not form a staple at our meals? It is pleasing to know that taste in this direction is being encouraged and guided to the right channel. In England the subject has been thought worthy the action of the Royal Horticultural Society. Prizes have been offered and awarded for table decorations. The accompanying engravings, Figs. 1, 3, 4, are specimens of the designs of this kind which took prizes at the June exhibition of the Society. They ranked in the order of the numbers, Fig. 1, taking the highest premium. The editor of the London Gardener's Chronicle says of the decision of the Committee, "The merit of the skillful arrangement to which the first prize was awarded, has been much discussed, and those who can not perceive how superior graceful form is to mere heaps of color, have not hesitated to condemn the judgment that conferred the premium. To us it seems impossible not to see that, however handsome the other groups may have been, they were unmistakably inferior to the successful piece. For how was the beautiful effect produced? Not by masses of flowers of priceless value, quite unfit for the purposes of a dinner table, to last for a few hours; but by some Ferns, some Lycopods, a few Roses, some Forget-me-nots, Vine leaves, and small clusters of grapes. Any body with the most modest income, could imitate this."

The above remarks and illustrations are, of course, intended to be only suggestive. Deco-

rations of this kind may be made of endless variety—what we desire is that they may be more frequent; that every house, however humble may be beautified and blessed with these and similar attractive objects which are within the reach of all.

Love of the Garden.

Our roll of subscribers contains—we are happy to know—many clergymen; and it gives us great pleasure to receive from them, as we do, frequent words of encouragement and approbation. At one time, a letter speaks of our articles on fruit-growing, at another, on farm management, and again on our Domestic and Youth's Department. To-day, a friendly word comes for the flower-garden and lawn, and on one letter page, the writer discourses thus pleasantly:

"I hardly know why it is, but my love of gardens and of universal nature increases with my age. Sometimes, I fear that my senses of sight and smell and hearing are getting a little blunted, yet when I go into my garden, the freshness of youth returns to me. The fragrance of flowers, and their forms and colors, are as delightful as ever. Trees and shrubs and vines and verdant grass have an unfading charm, and I trust they will ever have. A few roses, fresh plucked every morning by my daughter, adorn my study-table, and greatly help forward my sermon. A cluster of grapes or a pear from the garden often refreshes my lips fevered by studious toil, or when exhausted by preaching.

"With rural comforts and pleasures at command, of which these are only a specimen, it seems strange to me that so many persons willingly deprive themselves of their enjoyment. The "almighty Dollar" (if we may so speak without blasphemy,) is the idol of not a few, and just enough to eat and drink, is the supreme good of many others. . . . The influence of your *Agriculturist* in inspiring a love, and an intelligent love, of gardens and refined country life, is valuable beyond all calculation. Go on and prosper!"

Our clerical friend will please accept our thanks for these words of encouragement and approval. It is a source of much gratification to us to know that our pages exert so salutary an influence. It is in our hearts to do still more to inspire our countrymen and countrywomen with a love of the true and the beautiful; for not only does such a love make its possessor happy, but it improves him. God made this world, with all its beauty included, and He is pleased to have us love and study what He has created. Let us, then, strive to adorn our homes with every possible comfort and refinement, and, not the least, with rural embellishments—with trees and flowers, and plots of verdure, and orchards and gardens.

To Copy Leaves of Plants on Paper.

Take a sheet of paper, and rub over it the thinnest possible film of oil; then hang it up in the air to partially dry the film. Next cover the paper with lamp-black soot, or soot from a large tallow candle, by holding it extended over a smoky flame, and pressing it gently, but with care, into the flame, in order to cover the paper with smoke, but of course so as not to set it on fire. Having done this, put it into a damp place to take the curl out, and when cold and flat, lay on the smoky side the leaf intended to be impressed or printed; then press with a soft wad every part of it, so as to take up a portion of the black: this finished, place the leaf gently on a

sheet of drawing-paper, and put a piece of paper and a weight of books, or pressure, upon it. When the whole is removed, there will appear a very beautiful, black impression, resembling a lithograph of the leaf so treated, showing its true line, its veins and fiber, quite distinct and true to nature. Fleishy leaves of annuals and similar plants, are better to copy than evergreens. For a simple method of taking impressions which possess the advantage that they may afterwards be colored by hand, instead of lamp-smoke and candle-smoke, printers' ink may be used, as was done by Kniphoff in his celebrated botanical work, which extended to some dozen volumes folio, and was published more than a century ago, and was the first successful attempt at nature-printing on a large scale. Impressions taken in printers' ink may also be colored, and Kniphoff's work was published both plain and colored.—*Septimus Piesse.*

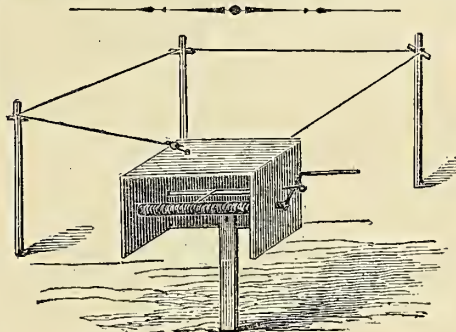


Fig. 1.

Apparatus for Washing Day.

To the Editor of the *American Agriculturist*.

The descriptions of improved apparatus of various kinds which I find from time to time, in the *American Agriculturist*, often make my pocket ache. But you know that money is by no means plenty among most farmers, and economy is one of the first necessities of successful farming under ordinary circumstances.

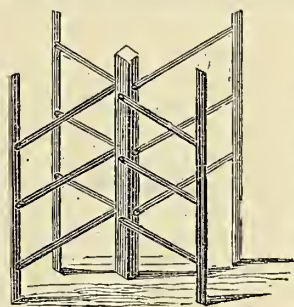


Fig. 2.

Therefore we have to exercise our ingenuity, and make the best substitutes possible, for those desirable implements we cannot afford. I send you the description of two articles which have long been in use in some sections, but which may be new to many of your readers. Our own are of home manufacture, and can easily be made. The first, Fig. 1, is designed to remedy the "clothes line nuisance," which you described in the July No. The illustration needs little explanation. It consists merely of a small box, in which is placed a roller, with its ends running in auger holes on the two sides. At one end a crank is attached, and the box is then securely fastened with screws through the front board upon the top of a post. Three other posts are set to form a square or parallelogram with the first. The clothes line has one end fastened to the roller, and on the other end an iron ring is tied. It is wound upon the roller by turning the crank. When wanted for use, the loose end is carried through an opening in front of the box, then around the three posts, and back to the top of the box, where it is secured by a hook which drops in the ring on the end of

the line. To keep the line in place, the crank is turned until it is tight, and then held by a pin inserted in the side of the box. After the clothes are taken in, the pin is removed, the hook slipped from the ring, and by turning the crank, the line is easily wound upon the roller, secure from being wet, and ready when wanted. The illustration is magnified, and the back board of the box left off, to show the roller. A bottom may be added to the box, if desirable, which will give a convenient place for keeping the clothes pins.



Fig. 3.

Fig. 2, represents a folding clothes horse, which takes up very little room when not in use. It is made with a center post and four uprights, and slats running at right angles to them. The pieces may be of any desired length. Each horizontal slat is screwed to the post and to the upright: the holes in the slats are made a little larger than the screws would require, so that they form pivots on which the slats turn. On each bottom slat is a staple to receive a hook fastened to the middle post, by which the whole is held in place when used. Fig. 3, represents the apparatus, nearly folded together. The folding makes it convenient where house room is scarce.

Cheap Apparatus for Drying Fruit.

A very simple apparatus for drying apples was used by our grandmother, and for aught we know, by her grandmother, and when a boy we made them for home use, but we have seldom seen them in use recently. The following sketch illustrates the apparatus referred to. It is a wooden frame made of two upright strips, about two and a half or three inches wide, and nearly an inch thick, joined at top and bottom by two cross pieces about three feet long. One or two more cross pieces may be put in to strengthen it if desirable. Common shingle nails are then driven into the uprights about four inches apart, and the strings of apples are hung across upon these nails as seen in the figure. They are so simple, that any apt boy can make one in half an hour.

They save the labor of moving the strings separately, and enable the housewife to carry on the process of drying in stormy weather, by the fire, when the fruit might otherwise spoil. In sunny weather, the frames can stand against the south side of the house, or if the fowls are troublesome, they can be hung up on nails driven for the purpose. In case of a rain, or a



frosty night, they can be removed to the kitchen in a very few moments without taking the strings from the nails. They can be put near the fire, and the drying process can be carried on very rapidly. Each frame six feet long will accommodate about 18 strings of apples, pears, peaches or other fruit. They will save

more than half the labor of the ordinary process of drying, and will enable the housewife to apply artificial heat whenever she desires.

For the American Agriculturist.

Packing Apples in Leaves.

Last year, just as we had finished apple gathering, I read in some newspaper, (not the *Agriculturist*), that it had been 'proved conclusively' that the one true way of keeping apples was, to pack them in dry forest leaves. I gathered leaves accordingly, upon a dry windy day, and packed three barrels the next day, all Spitzenbergs, hard and sound, placing them according to directions in a cold, dry place. One day in January I went down to see how my treasures were keeping. Rotten, one third of them already! green and moldy, many of the leaves actually wet. Too damp when put up evidently. Next season I mean to put apples and leaves enough to fill one barrel in a warm room for a few days, where they will become externally quite dry. I shall then place them in a shed where vegetables unprotected will freeze. What chance have I of finding my apples sound if I leave them undisturbed till the last of April? Can any readers of the *American Agriculturist* tell me?—[Not much.—Ed.] LOUISE.

Cure for Whooping Cough—A Second Attack, and the Remedy.

We have seen it stated in some recent medical journal, (name not remembered), that a considerable number of cases were on record where Whooping Cough had been either cured or greatly modified, by giving the patient from one to two tablespoonfuls of strong coffee three or four times a day. The coffee must be pure, fresh burned, and fresh ground, as strong as water will make it, and sweetened, but taken without milk. The amount to depend upon whether the child is accustomed to the use of this beverage or not. (No judicious parent will allow a young child to take coffee at all, except as a medicine.) We can not vouch for the remedy; it will be little trouble to try it, though there might be risk in giving too large doses of very strong coffee to a young child.

We have had a little experience with this disease, which may be interesting to others. When about 30 years old, we had a second attack of whooping cough, taken when debilitated with long watching over a child that died from this disease in combination with inflammation of the bowels. Anxious friends declared that we were fast going to the grave with "consumption," and we were booked for a tour to the Southern Islands.

As we had certainly had the whooping cough in childhood, and as the popular opinion was that this disease never attacks one the second time, the real trouble was not suspected—not even by our physician. Happening to come under the inspection of Dr. Worthington Hooker, of New-Haven, at a clinical lecture of the New-Haven Medical College, he pronounced our severe coughing of 8 or 10 hours in 24, "a second attack of the Whooping Cough." He at once prescribed a "Noel's Plaster," 4 inches wide, to be placed along the whole spine, from the back of the neck downwards, with assafoetida 2 inches wide along its middle part. An assafoetida pill, of moderate size, was to be taken morning, noon, and night; and five drops of "Fowler's Solution of Arsenic" to be taken

three times a day. The directions were followed for a week; our "consumption" departed; the distressing cough was broken off "as short as a pipe stem"; and from the hour of beginning to use the prescription to this day, we have not had so much as a single "hack" of a cough, except from an accidental obstruction of the throat by dust or other foreign matter. Both the assafoetida and the arsenical solution are specifics for spasmodic coughs, and the triple application, above referred to, was a pretty severe one; but the long continuance, and the severity and emaciating character of the cough, called for vigorous medicine; and the result was most happy. We would not, of course, advise others to follow the prescription except under the advice of a competent physician, but those afflicted with a first, or a suspected second attack of whooping cough, might do well to show this chapter to their physician at least.

A \$40 Cure for Stammering

A correspondent of the *American Agriculturist* asks us, first: if there is any reliance to be placed in a certain "Professor" who advertises "to cure the worst cases of stammering, or 'stuttering,' for \$40"; and second, if we can advise any remedy, as she has a son badly affected. We will answer both questions by saying that the secret for which the \$40 is asked, has long been known, though we have had no occasion to verify its utility; and further, that she can have the secret from us for \$1, viz: the \$1 she has already paid for the *Agriculturist* this year. Here it is: Let the stammerer begin at once to beat time for every word he utters, either in talking or reading, just as if singing the words. If this does not stop the hesitancy, then try beating time to every syllable, and afterwards gradually run into beating for words, and then for sentences. The beating can be done with the foot, or with a hand, or one finger of the hand, or by striking the finger and thumb together. Thus: "When (beat) in (beat) the (beat) course (beat) of (beat) hu- (beat) man (beat) e- (beat) vents, (beat) etc." A persistent course of measuring the words until the stammerer can read and talk straight forward, though slowly, for an hour at a time, will doubtless overcome the habit of stammering. We do not say that this will always effect a perfect cure in the worst cases, where the stammering or habit has been long established, but from the nature of the defect, it must be greatly modified, if not cured. And at least here is all you will get if you send your \$40 to the "Professor," who has no more skill, and no more right to the "secret" than we have.

For Consumptives.

Cream versus Cod-liver Oil.

During a few years past "cod-liver oil" has been the great popular panacea for consumption; tens of thousands of barrels of so-called cod-liver oil have been sold at enormous prices, and consumed. We say "so-called" for it is quite certain that a very large proportion of the material sold under this name has been mainly lard oil. We think little harm has been done by the deception, except by the cheat involved in selling for \$1 per pint bottle, an article costing less than \$1 a gallon. There is no doubt that thousands of cures have been effected by the use of both the pure cod-liver oil, and the spurious lard oil. Faith in the article (that is in the label on the bottle, and in the advertisements of the sellers) has in many cases dispelled fear and

started the patient on the high road to health; while the real nourishment afforded by the oil is often just what is needed by the dyspeptic patient suffering for lack of nutriment. Indeed, it is believed that to the carbonaceous elements of the oil, which are essential to good respiration, is mainly due the benefit that has been derived from the much lauded cod-liver oil. Acting upon this belief, one of our first physicians, Dr. Alonzo Clark, who is perhaps the highest authority of our city, has proposed the use of pure sweet cream as a substitute for the oil. Cream is essentially an oil, very similar in its composition to the cod-liver oil, lard oil, and others of like character, while it is far more palatable, and vastly cheaper. The Medical Reporter says that a consumptive patient, now under treatment, is taking cream with better effect than was experienced under the cod-liver oil previously tried.

Our advice is, for all who have, or think they have consumption, to adopt a cream diet. Eat the pure sweet cream abundantly, as much of it as the stomach will digest well. Eat it alone, on bread, with baked sweet apples, and at every meal. Eat it believing it will cure, and we doubt not that it will prove quite as effective as the purest cod-liver oil that can be bought.

What is in the Bedroom?

If two persons are to occupy a bedroom during a night, let them step upon weighing scales as they retire, and then again in the morning, and they will find their actual weight is at least a pound less in the morning. Frequently there will be a loss of two or more pounds, and the average loss throughout the year will be more than one pound. That is, during the night there is a loss of a pound of matter which has gone off from their bodies, partly from the lungs, and partly through the pores of the skin. The escaped material is carbonic acid, and decayed animal matter, or poisonous exhalations. This is diffused through the air in part, and in part absorbed by the bed clothes. If a single ounce of wood or cotton be burned in a room, it will so completely saturate the air with smoke that one can hardly breathe, though there can only be one ounce of foreign matter in the air. If an ounce of cotton be burned every half hour during the night, the air will be kept continually saturated with smoke unless there be an open door or window for it to escape. Now the 16 ounces of smoke, thus formed, is far less poisonous than the 16 ounces of exhalations from the lungs and bodies of the two persons who have lost a pound in weight during the eight hours of sleeping, for while the dry smoke is mainly taken into the lungs, the damp odors from the body are absorbed both into the lungs and into the pores of the whole body.

Need more be said to show the importance of having bedrooms well ventilated and of thoroughly airing the sheets, coverlets, and mattresses, in the morning, before packing them up in the form of a neatly made bed?

Cheap Clothing—A Dear Bargain.

To the Editor of the *American Agriculturist*:

Being at one time on a visit in New-York City, I determined to improve the opportunity to buy some clothing, which of course would be much cheaper there than nearer home. Accordingly I visited an establishment whose advertisements I had often read, and looked at their stock. I wanted garments for every day wear, and therefore was not particular about the fineness or finish, and was not long in purchas-

ing a coat and overcoat at what appeared to be remarkably low prices, viz.: \$9 50 for the two. They were of thick heavy cloth, and apparently well made, and I went home much pleased with my bargain. Upon showing them rather proudly to the tailor who had usually made my clothing, he smiled, and said "shoddy."

"What's shoddy?" I asked.

"It's worn out cloth made over again," was the reply. And I soon found that the cloth had indeed been worn out before I bought it, for in a very few weeks, the garments were out at the elbows, split open in the back, and ragged in the skirts. I have since learned that the tailor was right. Shoddy is made of old woolen rags, old stockings, etc., which are picked to pieces, a little new wool is mixed in, and then spun over and woven. By careful dressing, a very fair looking cloth is made, but the *wear* was mostly taken out of it the first time it was used. Perhaps my experience may be of service to some others who may be tempted by a low price to buy a dear bargain.

COUNTRYMAN.

St. Lawrence Co., N. Y.

Keeping Milk in Hot Weather.

When first drawn from the cow, 1000 pounds of milk contain nearly half a pound of free soda. (The average amount is 42-100ths of a pound, or 2940 grains—about 6 grains of soda, by weight, to the quart of milk). This alkali serves to keep the casein, or curd, in solution. After a time, lactic acid is produced, which neutralizes the alkaline soda, and the casein being no longer held in solution separates, or "curdles." When quick curdling is desired, as in cheese making, an acid is added, or what is the same thing, rennet is used, which acts as a ferment rapidly producing an acid. When it is desirable to keep milk sweet, or uncurdled, we have only to stir in a little extra soda, say a bit of cooking soda hardly so large as a common pea for a quart of milk—the amount to depend upon the weather, and the time the milk is to be kept. The small amount of soda required will not affect the taste of the milk, or its healthfulness—it only serves to keep it in its *natural* alkaline condition.

Removing Stains.

Ox-gall is an excellent article for removing oil stains from delicate colored fabrics. It often fixes and brightens colors, but will slightly soil pure white materials.—Alcohol, or strong whiskey, washes out stains of oil, wax, resin, and pitchy or resinous substances; so also does spirits of turpentine, and generally without injury to colors. The turpentine may afterwards be removed with alcohol or whiskey. Common burning fluid, which is a mixture of alcohol and turpentine (or camphene,) is an excellent solvent of oil, wax, tar, resin, etc., and it soon dries off after use.—Ink stains, or iron mold, may generally be removed with the juice of lemons or of sorrel leaves. If these fail, oxalic acid is almost infallible. Moisten the stain spots with water, and rub on a little powdered oxalic acid which can be cheaply obtained at any druggist's. Wash off the acid very thoroughly, soon after it is put on, or it will eat the fabric. If children are present, remember that oxalic acid is poisonous in the mouth, though not so on the hands, if not kept long upon them.—Moistening a cloth, and holding it for a few minutes over the fumes of burning sulphur, will bleach out most colors and stains. Be careful not to burn the fabrics. The fumes may be conducted

to any particular spot by a paper roller in funnel shape, (or a common tin funnel,) held over the sulphur burning upon a shovel. The sulphur fumes are specially applicable to stains of fruit, and of vegetable juices generally. These may frequently be removed by dipping the fabric in sour milk and drying it in the sun, repeating the operation several times if needed.—All oily substances (except the paint oils) can be expelled from carpets by holding a very hot iron as near as it can be placed without burning. Porous paper or common brown paper laid upon a grease spot, and run over several times with a hot sad-iron ("flat iron") will absorb the oil.

Greening Pickles with Grape Leaves.

It is usually considered very desirable by housekeepers that pickled cucumbers, mangoes, etc., should be of a deep green color. They taste no better, but they look nicer. It is well enough to improve the appearance of food provided it be not at the expense of healthfulness. In the usual method of "greening" pickles, the desired color is imparted by the presence of an active poison. Various cook-books give directions to place the pickles in a brass or copper vessel, pour hot alum water over them, and let them remain until of the desired color: that is until the salt of copper, verdigris, has acted upon them sufficiently. No, no, Messrs. cook-book makers, don't advise people to do any thing of the kind. Pickles in their best estate are sufficiently difficult of digestion, and the verdigris will not help the matter.

Mrs. Haskell, in her Housekeeper's Encyclopedia, gives the following process for greening pickles, which is entirely free from the above objections. We have not seen it tried, and although the method does not strike us favorably, it may answer the purpose.—Mrs. Haskell ought to know; at any rate the experiment is easily made and will not injure the pickles: "When packing the cucumbers in salt, line the barrel, bottom and sides, with grape-leaves, and pack between the layers of cucumbers a quantity of the fresh leaves, until the barrel is full. When salted through, remove them from the brine, and pour boiling water upon the pickles, several times. If not the desired color, line a tub in the same manner that the barrel was prepared, and pack the pickles with a large quantity of the leaves. Heat vinegar boiling hot, pour it over the pickles, and cover them tightly. If, the next morning, they are not sufficiently greened, drain off the vinegar, reheat it, and pour it again over them; repeat the process until of the color desired. When they are sufficiently greened, pour over them hot vinegar; if they taste of the vine leaves, change the vinegar after a week.

Cooking Eggs.

A correspondent of the *American Agriculturist* writes: "If eggs are boiled 3 to 3½ minutes, the yolks have a raw taste, and they are too *mussy*. A much better way is to put them into water just a little too hot to bear one's fingers in it, and set them where they will not get very hot; let them remain about fifteen minutes, when the yolks will be nicely cooked, and the whites will be very soft and nice, but not soft enough to have a disposition to get away. To tell when they are done, whirl one with the thumb and finger. A cooked egg will whirl like a top, but a half-done egg will stagger like a drunken man.

To fry eggs.—Grease a straight edged dish with a little butter; pour them into it, and set

them into a moderately heated oven. Do not let them cook too much."

REMARK.—Our correspondent evidently has not learned to enjoy eggs rightly cooked. They should be "mussy," as she terms it. The proper and healthful mode of eating eggs is with a spoon, from an egg-glass, tumbler, or teacup, and they should never be cooked so hard that they can not be stirred with a spoon. Thus cooked, and spiced with a little salt, and pepper, if this is used, they have a rich buttery taste, instead of the hard, dry, or mealy taste resulting from hard boiling, when they need butter to make them go down. It takes some time for one used to hard boiled, indigestible eggs, to learn to eat them soft boiled, but the latter are enough better to pay for the learning. We have long since tried the change, and on no account would go back to the old mode.

Corn Yeast.

Contributed to the *American Agriculturist*, by Mrs. L. Gilbert, Jones Co., Iowa: Brown a pint of corn as if for coffee; pare four middling sized potatoes; add a handful of hops, and boil the whole in two quarts of water two hours. Take out the corn; rub the potatoes through a colander, and then strain the liquid. Add 1 teacupful of salt, 2 of sugar, 1 of yeast, and warm water enough to make two gallons; let it stand lukewarm twenty four hours; then bottle, and cork tightly. One teacupful of this yeast will raise two large loaves of bread, and it will keep good for three months.

Root Beer.

Mrs. L. D. Kendall, sends the following recipe to the Country Gentleman: For 10 gallons of beer, take 3 pounds common burdock root, 1 pound dandelion root, ½ pound sassafras root, or 1 ounce essence sassafras, ½ pound good hops, 1 pint corn roasted dark brown. Boil the whole in 6 gallons pure water until the strength of the materials is obtained; then strain while hot into a keg, adding enough cold water to make 10 gallons. When nearly cold add clean molasses or syrup until palatable—not *sickishly* sweet. Add also as much fresh yeast as would raise a batch of 8 loaves of bread. Place the keg in a cellar, or other cool place, and in 48 hours you will have a keg of famous, healthy, sparkling root beer.

Tomato Pickles.

Contributed to the *American Agriculturist* by M. C. Monk, Norfolk Co., Mass.: Slice green tomatoes and put them in salt and water for three or four days. Scald them in alum water; then place a layer in the bottom of a jar and sprinkle on a little sugar, allspice, and cinnamon; put in another layer, sprinkle as before, and so on until the jar is nearly filled, and cover the whole with scalding cider vinegar.

CLOVE CAKE.—1 lb. flour; 1 lb. of sugar; 1 lb. raisins; ½ lb. of butter; wine glass of brandy(?); 1 teacupful of cream; a teaspoonful of cinnamon, 1 of cloves, 1 of nutmegs; 5 eggs, 1 teacupful of saleratus.

If you would rise as far as possible above the brute creation, cultivate your thinking, reasoning faculties, for it is thinking and reasoning that makes the difference, not only between man and brute, but also between man and man.

Sidney Smith says marriage resembles a pair of shears, so joined together that they can not be separated. They often move in opposite directions, yet always punish any one who comes between them.



THE PET RABBITS.

The Editor with his Young Readers.

About the Picture.

What makes this such a pleasant picture to look upon? Rabbits are very pretty creatures, and the boy who is petting them is a fine, chubby, good-natured little fellow, but something more than all this draws our attention to the scene. Is it not because the boy *loves* his rabbits—as you can see by the tenderness with which he handles and fondles them? There is nothing so beautiful as love; and nothing can make one half so attractive, as a loving nature. We know a teacher, whom you would pronounce, at first sight, to be one of the homeliest and most disagreeable looking men you could imagine. He is deformed, his complexion is very dark, and his features are repulsive; yet his scholars think him the most attractive of men. He is so kind, so just, and so affectionate, that the boys forget his outward appearance, and think only of his character, and they say “he is a beautiful man.”

It is a good thing for children to have pets; it teaches them to be loving, patient, and gentle, for only in that way can animals be made tame and confiding. The *best* pet is a younger brother or sister, but if you have not these, then keep a dog, or a rabbit, or squirrel, or some animal that may be taught to love you.

Rabbits will require some care to keep them well, and to prevent their doing mischief in the garden. A *hutch*, (or box,) should be provided, with an enclosure around it, where the rabbits may be kept from doing mischief, and secure from dogs and other enemies. They feed upon almost all green vegetables; the weeds and surplus growth of the garden will furnish supplies for quite a family of rabbits. They should also have a daily allowance of dry feed, as oats, hay, etc. By proper attention, the rearing of rabbits may be made a profitable as well as pleasant employment.

A Little Girl's Logic.

A little girl, six years old, was told the silly story that the moon is made of green cheese. She re-

plied that she did not believe it, but was much troubled to prove it untrue. Finally, remembering that an account of the Creation is given in the Bible, she read the first chapter of Genesis carefully, and then exclaimed triumphantly: “The moon can't be made of green cheese, because it was made before the cows were.” That was true logic.

Lizzie and her Flower Seeds.

“Dear me,” said little Lizzie Perry, one warm Saturday afternoon, “how I wish I had something to do. It seems twice as warm when you just sit still in a rocking chair, and do nothing. I have fed the canaries, and teased poor Poll until she got vexed with me and made such a noise I could not stay in the arbor, though I boiled her an egg to make up. Now what can you think of, mother, that you would like to have me do.”

The mother sat by the window busily sewing white braid on a little buff sleeve of Willie's. “Well, my dear,” she said, “I think you might gather the flower seeds this afternoon. It will be shady under the locust trees. Those sweet williams, and larkspurs, are all wasting, and so are the four-o'clocks, and the morning glories on the lattice.”

“There is not much use in sowing the seed, mother, they will all come up just the same.”

“That is true, but you might give the seed to some one who has none. Do you not know of some place where they have no flowers, and where they might be induced to cultivate them?”

“Yes, mother, I pass half a dozen places every day as I go to school, where the factory people live, and they have not a flower about, though all have a bit of door-yard.”

“Just think how pleasant it would look, to see flowers blooming all along that row, and morning glories climbing about the windows. Then what a blessing it would be to the poor hard-working people. My little daughter does not appreciate the value of a refined, tasteful home, as she would after living for a time in one of these poor places.”

“Oh, mother,” said Lizzie, with a little shudder at the bare possibility of such a thing.

“Well, we should do what we can to make their life brighter and better. Flowers are God's little ministers, sent to bless and cheer alike the high and the lowly. I can not bear to see them wasted, when they might be cheering some lonely lot. I remember a lesson our gray-haired gardener taught me when a child. We had been taking up roses and lilacs, and there were many more than we wanted. Our neighbors were well supplied, so I proposed throwing them away. ‘I think it would be wrong,’ Miss Clara, to waste these sweet gifts of God,” said Philip, “I would rather plant them by the wayside, where they may surprise and please some weary-footed traveler.” So we concluded to set them out by the rustic seat near the bridge. They grew fast in the rich soil by the river, and I do not think the richest flower garden ever gave more delight. They were free to all, and foot travelers, and little children especially, enjoyed their fragrance. Good, old Philip, he was always trying to do some one a favor.”

Lizzie gathered her flower seeds that afternoon, and bestowed them as her mother proposed. They were received thankfully, for every one loved the little girl who passed them daily with such a pleasant face, and who always had a cheerful word for them. The next season they were planted about the doors, in little beds or boxes, and it was delightful to see the glow of sunshine they threw over the low brown cottages. And the glow was not confined to the outside, but came in at the open doors and windows, for sympathy with the pure and beautiful in nature, ever makes the heart softer and better.

Nobody's Baby.

Contributed to the *American Agriculturist* by Mrs. C. H. Gildersleeve.—Returning from church on Sabbath afternoon, we passed a house just as a carriage was leaving the door, with a coffin on the front seat, and two or three sad faces on the other. Upon the low verandah stood children of all sizes, each with another edition of the same face, and all with great round tears rolling over their chubby cheeks. It was not the babe of that household, for there could be none younger than the one the eldest girl hugged up lovingly in her arms, and there was not room for another to have grown between any two of the group. Presently a shy but sympathetic child over the paling, said softly, “Don't cry any more. It won't yours. It won't nobody's, cause 'twas left.” A flash of indignation crossed the faces of the group, and one little fellow replied quickly; “What if it won't ours! It can't got nobody to cry for it but us, and we loved it more for that.”....Don't say the world is all selfishness. That there are no great, warm throbbing, loving hearts left. Don't say there is no affection that seeketh large return. Here was a home that wealth passed by, but it was blessed with treasure that filled not, in abundance. Though there were many mouths, and little bread, there was room in their bosoms for the little outcast, and love to outlast its wailing life, and even tears when the gathering messenger came to replace the little bewildered soul back into Paradise.

Caught in his own Trap.

A very mean man once hired a servant girl for six months, agreeing to give her her board for her services. In a few weeks he discharged her, and the father of the girl sued the man for damages. When the case came to trial, the following conversation took place between the Judge and the defendant:

Judge.—Why did you discharge the girl?

Defendant.—She was such an enormous eater.

J.—But you agreed to board her for her work?

D.—Yes, your honor, but she eat so voraciously.

J.—How much would it cost to feed her? One dollar a week?

D.—Oh, that isn't a circumstance.

J.—Perhaps a dollar and a half, or two dollars?

D.—Nothing less than two dollars and a half, I assure your honor.

J.—(With a merry twinkle in his eye) Well then, I give judgment that you pay to the girl two dollars and a half per week for the remaining time she was engaged—which according to your own statement of the contract, is what she is entitled to.



Fig. 22.

Explanation of War Terms....No. III.

How to distinguish the Rank of any Officer in the Army, by his Dress or Equipments.

We thought enough had been said on this subject, but a large number of our readers write that the plain descriptions and illustrations we have given, are just what is needed by the mass of people, and the call is for more.—Perhaps nothing will interest our younger readers more, than to be told how to know the rank of different officers they meet with, by simply looking at their uniform.—The uniform, or dress of soldiers, is one of the most attractive features of the military equipment. To carry a gun, is a passion with most boys from infancy almost; but the sight of the long rows of men with coats and pants and caps all alike, and with their feathers, belts, and epaulets, has much to do with



Fig. 23.



Fig. 24.



Fig. 25.

drawing men into an army: the tinsel, the glitter, and the bright colors catch and please the eye. But these decorations are useful as well as ornamental. An army is a machine to be hurled against an enemy, and to be effective, all its parts must be perfect. The officers are guide wheels, so to speak, and their uniform serves to distinguish them, and to mark their rank and authority.

The regular army, that is the soldiers kept in time of peace, is divided into different corps or classes—the Artillery, or soldiers using cannons; the Cavalry or mounted troops; and the Infantry or foot soldiers, armed with muskets or rifles, and bayonets. All the men in any one of these classes dress alike in the regular army.

Volunteers, that is those enlisted for the duration of any war, wear a variety of uniforms, each regiment being governed by fancy, or by the garments chancing to be supplied to them by the State which equips them. Some have light blue coats, and red pantaloons; others wear yellow and blue; others gray, and so on through every variety and combination. Gray clothing is doubtless the best for wear and for safety, as a man dressed in gray is not a very conspicuous object for an enemy to fire at. The officers, however, both of the regulars and volunteers, all wear certain badges by which their rank can be known at a glance. These badges consist mainly of marks upon the shoulders or sleeves. The following explanation will show the essential marks.

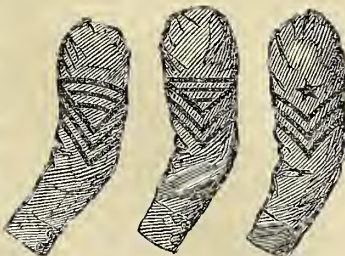


Fig. 26.

Fig. 27.

Fig. 28.

Fig. 22, is a picture of the (acting) *Commander in Chief*. His rank is shown by the *three* silver stars on his epaulet, the middle star being the largest. The stars may be on a simple strap on the shoulder. No other officer wears *three* silver stars. The epaulet or strap is edged with silver lace.

Fig. 23 shows the distinguishing mark of a *Major General*, who is next in rank to the *Commander in Chief*. *Two* silver stars are worn on a simple strap on the shoulder, or on the epaulet, if that be worn.

Fig. 24, marks the *Brigadier General* who commands a brigade, consisting of two or more regiments. This officer wears *one* silver star on his shoulder, either on an epaulet, or on a cloth strap. The above marks belong to general officers of a large army. The next five belong to the general or staff officers of a *regiment*; and as regiments (of about 1000 men) are being raised all over the country, most persons will be able to see many of the officers wearing them.

In fig. 29 you have a *Colonel*, the highest officer of a regiment. His distinguishing mark is a *silver spread eagle* on each shoulder, either upon the epaulets, or on a cloth strap over each shoulder.

Fig. 25, marks the *Lieutenant Colonel*, who is next



Fig. 29.

in rank to the *Colonel*. He has a *silver leaf* upon each end of the shoulder strap or epaulet, that is, two silver leaves upon each shoulder. The *Major* of a Regiment wears similar leaves, but they are worked in *gold* lace instead of silver.—The above are commissioned officers. There are three non-commissioned officers of a Regiment who have no shoulder marks, but are distinguished by stripes or marks on the sleeve of the coat as follows: Fig. 26, the *Sergeant Major*, wears on the sleeve below the shoulder *three* bars or stripes of *silk*, running down to a point or angle, with *three* curved cross stripes above them.

Fig. 27, the *Quartermaster's Sergeant* wears similar bars of *silk*, but the cross bars at the top are *straight*, and not curved like those of the *Sergeant Major*.

Fig. 28, the *Ordnance Sergeant*, wears three angular stripes of *worsted*, and instead of the three cross-bars, he has a star worked in *worsted*.—We now come to officers of a Company, which consists of 100 men or less. You will remember that usually there are ten companies in a regiment, which are designated by letters of the alphabet from A to K, omitting J, thus: Company A, Company B, etc.

Fig. 30, shows the mark of a *Captain*, the highest officer of a Company. It is a shoulder piece of cloth, worked with a *gold* embroidered edge, and has *two* gold bars on each end. One of these straps is worn on each shoulder.

Fig. 31, marks the 1st *Lieutenant* of a company,

who is next under the *Captain*. His shoulder straps are like those of the *Captain*, excepting that they have only *one* gold cross bar instead of two. Four regimental officers, viz., the *Surgeon*, *Quartermaster*, *Paymaster*, and *Commissary*, have the rank of *Lieutenant*, and each



Fig. 33. Fig. 34. Fig. 35.

wears the strap with the gold cross bar at each end, and in addition, *gold embroidered letters* designating his department. The *Surgeon's* strap has the letters *M. S.*, which stand for *Medical Staff*. The strap of the *Quartermaster* is marked *Q. D.*, for *Quartermaster's Department*; the *Paymaster's* is marked *P. D.*, for *Paymaster's Department*, and the *Commissary's*, *C. D.*, meaning *Commissary Department*.

Fig. 32, marks the 2nd *Lieutenant* of a Company. It is a simple strap like that of a *Captain*, but has no cross bars. The *Captain*, and 1st and 2nd *Lieutenants* are "*Commissioned Officers*," and you will note that all officers holding commissions from the government have the distinguishing marks upon the shoulders, while the non-commissioned officers both of regiments and companies wear their distinguishing badges upon the arm.

Fig. 33, marks the *First Sergeant*, (or *Orderly Sergeant*) of a company. He wears on his arms *three* angular stripes of *worsted*, with a lozenge or diamond above them. (Note that in figures 26 and 27, the stripes are of silk).

Fig. 34, distinguishes the simple *Sergeants* of a company. There are usually five of these sergeants in a company, each one having charge of a platoon of about 20 men. The badge consists of *three* angular stripes of *worsted*, with no mark above.

Fig. 35, is the badge of a *Corporal*, the lowest officer of a company. This consists of *two* angular *worsted* stripes worn on the arm.

The officers and men of the different branches of service are further designated by making the straps of different colors: Thus the officers, attached to the staff of a general have *dark blue* shoulderstraps; those of *Artillery* officers are *scarlet*; *Infantry* officers wear *light blue*; *Riflemen*, are distinguished by *green* badges, and *Cavalry* by *orange*.

RECAPITULATION.

- Fig. 22—3 silver stars, *Commander in Chief*.
- Fig. 23—2 silver stars, *Major General*.
- Fig. 24—1 silver star, *Brigadier General*.
- Fig. 29—silver spread eagle, *Colonel*.
- Fig. 25—silver leaves, *Lieutenant Colonel*—Leaves in gold, mark the *Major*.
- Fig. 26—silk bars and curved stripes, *Sergeant Major*.
- Fig. 27—silk bars and straight cross stripes, *Quartermaster's Sergeant*.
- Fig. 28—three angular *worsted* stripes, and star, *Ordnance Sergeant*.
- Fig. 30—two gold bars on each end of strap, *Captain*.
- Fig. 31—one gold bar, *First Lieutenant*.—One gold bar and letters, mark the *Surgeon*, *Quartermaster*, *Paymaster*, and *Commissary*.
- Fig. 32—plain gold edged strap, *Second Lieutenant*.
- Fig. 33—three angular *worsted* stripes and lozenge on arms, *Orderly Sergeant*.
- Fig. 34—three angular plain *worsted* stripes, *Sergeant*.
- Fig. 35—two angular plain *worsted* stripes, *Corporal*.

Problems.

No. 18—Illustrated Rebus, suited to the Times.



This problem was published last month, but as only one correct answer has been received, we

repeat this month that you may try again.

No. 21.—Contributed to the *American Agriculturist* by John Stagg, who desires to know, *how* it is solved: A boy counted his marbles by twos, threes, fours, fives, and sixes, and had one left over each time; but when he counted them by sevens, he had none remaining. What is the least number he could have, which could be thus counted?

No. 22.—*Arithmetical Problem*.—Contributed to the *American Agriculturist*, by George Washington Woodward, Hawkesville, U. C.: A market woman bought a certain number of apples at the rate of two for a penny, and afterwards four times as many more at the rate of three for a penny, and thinking to sell them all to a friend at cost price, she sold five for two-pence, and found she had gained 21 pence. How many apples did she buy in all?

Answers to Problems in former Nos.

No. 15.—*Interest and Discount Question*. (See page 218, July No.) Answer \$3597.50.

No. 19.—*Military Letter in Cypher*. (See page 249, Aug. No.) The key to the translation is as follows: The first letter of each word is replaced by another found five letters distant from it in the alphabet; the second letter is replaced by one six letters distant from it, and so on alternately through the word. Answer: We expect to occupy Richmond in three days at furthest.

No. 20.—*Scriptural Enigma*. (See page 249, Aug. No.) Answer: A soft answer turneth away wrath. Scripture names: Ahaziah, Samuel, Othniel, Felix, Troas, Aaron, Nadab, Sodom, Wagous, Ehud, Ruth, Teu, Uzzah, Rhoda, Nebuchadnezzar, Esau, Thomas, Huldah, Anna, Wrath, Aquila, Yoke, Wilderuess, Rebecca, Absalom, Timothy, Heth.

Correct answers received, and not previously acknowledged, from;

Frank Cook, No. 19; F. Porter Dahymple, 19, 20; Wilford Wilson, 20; Carrie J. Griffen, 20; Abraham Marshall, 15; "Black Eyes," 20; J. Middleton, 20; J. Albert Evans, 20; A. T. Secor, 20; Albert V. Brown, 18; W. Boyers, 20; C. L. Siewers and A. C. Siewers, 18; W. W. Walther, 20; Wm. Burton, 15, 18, 20; E. M. Stevenson, 20.

How the Angels do it.

Here is something for a certain class of children—perhaps for *you*. A teacher, in talking to her class about the part of the Lord's Prayer, "Thy will be done," said: "You have told me my dears what is to be done on earth, and how it is to be done, viz.: as it is done in heaven. Now, *how* do you think the angels do the will of God?"—The first child replied: "They do it immediately." The second said, "They do it diligently." The third said, "They do it always." The fourth answered, "They do it altogether." Here a pause ensued, until a little girl, raising her hand, answered: "Why, sir, they do it without asking any questions."

The "Silver Rule"—Paste it Up.

You all know the golden rule, "Do unto others as you would wish them to do to you." Here is a rule which is almost a part of the golden rule, but which we will put by itself, and because of its value, call it the "Silver Rule"—*Think and say all you can of the good qualities of others; forget and keep silent concerning their bad qualities.*—You can not conceive how much such a course will lighten your own happiness, and raise you in the esteem of your mates. Did you ever think any more of a boy or girl because he or she found fault with others? Never call your schoolmates or playmates ugly, or cross, neither to their faces nor behind their backs. If they are ugly, or stingy, or cross, it does not make *them* better to talk or think about it, while it makes *you* love to dwell upon faults of others, and causes your own soul to grow smaller, and you become like the foul bird that prefers carrion for food. Rather tell all the good you can, and try to think of some good quality.

During the recent shock of an earthquake at Swanton, Vt., a little girl in the upper story of a house came running down stairs, saying she was afraid to stay up there, as "somebody rocked her chair when she didn't want to."

GOOD BYE, OLD FRIEND!—One of the Sixty-ninth Regiment, who lately arrived in New-York from the seat of war, describes the condition of the wounded in the "mistake" near Bull Run. There were several badly wounded, but one in particular had to have his right arm amputated. He bore the operation with much fortitude, and seeing the arm about to be taken away for burial, called the man back, and grasping the fingers, shook hands with the arm, saying, "Good bye, old friend; you served me often at a pinch, and I thought to carry you to the grave, but you are going before me. Good bye."

LIARS.—A quaint old minister, after reading his text: "I said in my haste, all men are liars," began his sermon very thoughtfully: "Aye, David, ye said it in your haste, did ye? If ye had lived in these days and in this parish, ye might have said it at your leisure."

In an advertisement of some uncalled for baggage, by an English R. R. Company, an "1" dropped out from *lawful*, making it read: "People to whom these packages are directed, will please come forward and pay the awful charges on the same."

A scolding person can not govern others. What makes people seold? Because they can not govern themselves. How, then, can they govern others? Those who govern well, are generally calm; they are prompt and resolute, but steady and mild.

Tall Boys.—An "exchange" says: "A 'Board of Education' in Wisconsin has resolved to erect a building large enough to accommodate 500 students three stories high."

NEW PREMIUM LIST, For 1862---Vol. XXI.

Or Pay to Voluntary Agents who will attend to collecting names of new and old subscribers, and forwarding them to the Office.

Experience has proved that it is a benefit to the subscribers themselves, as well as to the publisher, to have an Agent at every Post Office, to attend to collecting the names and subscriptions of old subscribers, and to present the advantages of the paper to those not yet acquainted with it. But to employ and commission a Special Agent in every neighborhood throughout the country, is out of the question. We therefore offer certain good articles, the value proportioned to the number of names sent in, and leave them open to every person disposed to attend to the business, in the locality where he may be known to be a reliable man. The *pay* offered for a year to come is very large, but perhaps none too much so for the times. By giving the articles offered we can make the *pay much larger* than if in money, because we have facilities for getting these articles at a low rate. Besides, the advertising thus given to the manufacturers, induces them to bear a considerable portion of the expense on the articles we need for premiums.

In selecting articles for premiums, we have aimed to get such as are *useful*, and as have been most frequently called for by our readers. WE WISH IT DISTINCTLY UNDERSTOOD that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made, or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bills, needed by canvassers, will be freely furnished.

Only one premium can be paid on the same subscriber.

We make no distinction between new and old subscribers, but it is expected that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

The offer of extra numbers to new subscribers received now, makes it practicable for canvassers to begin collecting names at once. Indeed, these numbers are an extra inducement.

Every person collecting names for premiums, should send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent—one of them marked at the top "For Premiums," and also with the name of the sender.

The premiums are offered for subscribers for Volume

XXI (1862), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any club is made up—if duplicate lists are sent.

Any person who has commenced sending in names at 80c, and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, outspoken, and reliable, the special friend, advocate, and promoter of the farmer's interests, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in the next Volume, than in any preceding one. Onward, upward, is our motto.

Table of Premiums for 1862.

Names of Premium Articles.	Price of each, \$1 each.	Names at 25c each.	Names at 50c each.
1—Clothes Wringer, No. 1.....	\$7.00	13	25
2—Clothes Wringer, No. 2.....	\$7.50	18	37
3—Clothes Wringer, No. 3.....	\$10.00	23	48
4—Sewing Machine, (Wheeler & Wilson).....	\$45.00	90	130
5—Sewing Machine, (Wileox & Gibbs).....	\$35.00	69	98
6—Aneroid Barometer.....	\$7.50	19	44
7—Hydrophilic do do do.....	\$12.00	30	48
8—Five Octave Melodeon (best).....	\$75.00	125	237
9—4½ Octave Melodeon (best).....	\$60.00	104	182
10—Four Octave Melodeon (best).....	\$45.00	90	130
11—New Encyclopedia, 16 volumes.....	\$48.00	96	140
12—Worcester's Unabridged Dictionary.....	\$7.50	17	40
13—Five back Volumes <i>Agriculturist</i> , p.p.....	\$5.00	16	30
14—Four do do do do do.....	\$4.48	18	25
15—Three do do do do do.....	\$3.33	13	20
16—Two do do do do do.....	\$2.24	15	15
17—One do do do do do.....	\$1.12	10	10
18—Winsor & Newton's Paints.....	\$2.50	20	20
19—Osborn & Hodgkinson's Paints.....	\$1.50	15	15
20—Hand Corn Sheller (best).....	\$6.50	31	40
21—Straw and Hay Cutter (best).....	\$8.00	24	48
22—Best Subsoil Plow (2-horse).....	\$8.00	24	48
23—Various Books—See terms below.....			

DESCRIPTION OF THE PREMIUMS.

Premiums 1, 2, 3.—Wringer Machine.

We place this first, for it is nearly new, and one of the most useful articles for every family. We had one of the first made, and have used it over a year with the highest satisfaction. It completely does away with the hard straining work required to wring out garments by hand. It does not twist and break the fibres of the clothes, but simply presses them between two elastic India-rubber rollers, which are moved by a crank, and whether large or small pieces, they come out drier than when wrung by hand. The saving to garments would soon pay the cost of the implement, to say nothing of the saving of woman's labor. The machine is set upon the side of any tub; the garments drop out into a basket. A child can quickly wring out a tub full of clothes—They are of three sizes.—No. 2, costing \$7.50, is just the thing for common family use. This we present to any one sending us 18 subscribers for the *Agriculturist*, at \$1 each, (or 37 at the lowest club price of 80 cents.)—No. 1, costing \$5, will answer very well when No. 2 can not be afforded, but No. 2 is preferable. We will present No. 1 to any one sending 13 subscribers at \$1 each, (or 25 at 80 cents.)—No. 3, costing \$10, is adapted to larger families and Hotels. We will present it to 23 subscribers at \$1 each, (or 48 at 80c. each.)—We are glad to be able to present this implement as a premium on such liberal terms. One or more clubs for a No. 2 might be made up in almost every neighborhood.

Premium No. 4.—Sewing Machine.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person sending them to *Wheeler & Wilson's* best \$45 Sewing Machine, (including Hemmer), new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by nearly four years' use in our own family, in connection with other machines. We want no better.—The prolongation of life, the saving of health and strength to our females, and the better physical vigor thus secured to the next generation, render the Sewing Machine one of the most desirable additions to the household.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using go with each machine.

Premium No. 5.—Sewing Machine.

69 Subscribers at \$1 each, (or 98 at 80 cents each,) will entitle the person procuring them to *Willcox & Gibbs's* \$35 Sewing Machines, including a set of Hemmers. This is the best machine of its kind, (sewing with one thread,) and has several points superior to other machines. It is neat, well made, simple in its operation; and having tested one in our own family for more than a year, we think highly of it, and can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of Hemmers, because those used with this machine are very simple and effective, and should go with every machine sent out.) The machines given as premiums, will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium No. 6.—Barometer.

19 Subscribers at \$1 each, (or 44 at 80 cents each,) will entitle the person getting up the club to one of *Kendall's* Aneroid Barometers, (Price \$7.50.) This is a good portable instrument, and valuable to every person as a

weather gauge, as well as for scientific purposes. We have had one in use for nearly two years, and find it not only accurate, but an admirable weather prophet. Scarcely a rain storm or gale of wind has occurred, that has not been heralded by our barometer. Each instrument is packed in a neat leather case, 6 inches square, and 4 inches deep, and this, surrounded by cotton, is enclosed in a wooden box, ready to be carried anywhere by express or otherwise.

Premium No. 7—Hydropult.

30 Subscribers at \$1 each, (or 48 at 80 cts. each,) will entitle the person making up the club to the **Hydropult**, (Price \$12.) a very useful hand implement for carrying instantly to any desired point, to throw water from a pail, tub, cistern, or other receptacle, for extinguishing fires, watering plants, washing carriages, etc., etc. A stream can be thrown up to the third story windows. It is supplied with jet pipe and rose or sprinkler, is made of brass, and is durable. It weighs only 8 lbs., and can be packed in small compass to go by express or otherwise.

Premium No. 8—Melodeon.

125 Subscribers at \$1 each, (or 237 at 80 cents each,) will entitle the person getting up the club to one of **Geo. A. Prince & Co.'s \$75 Melodeons** (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly, by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room. This was done in several instances the past year.

Premium No. 9—Melodeon.

104 Subscribers at \$1 each, (or 182 at 80 cents each) will entitle the person getting up the club to one of **Geo. A. Prince & Co.'s \$60 Melodeons** (4½ octaves.) See remarks above.

Premium No. 10—Melodeon.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person getting up the club to one of **Geo. A. Prince & Co.'s \$45 Melodeons** (4 octaves.) See remarks above. **N. B.**—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium No. 11—New Cyclopaedia.

96 Subscribers at \$1 each, (or 140 at 80 cents each,) will entitle the person getting up the club to a set of **Appleton's New American Cyclopaedia**, now in course of publication, consisting of sixteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining four will be furnished as fast as issued. The original design of this work was 15 volumes, but it is found that the immense mass of matter will require 16 large volumes. The work is sold at \$8 per volume, or \$48 for the set. To no better purpose could any one devote the coming Fall and Winter evenings than to raising the club of subscribers required to secure this most valuable work for himself and family.

Premium No. 12—Best Dictionary.

18 Subscribers at \$1 each, (or 40 at 80 cts. each,) will entitle the person getting up the club to a copy of the **large Pictorial Unabridged Edition of Worcester's Dictionary**, (Price \$7 50.) This now stands confessedly the most valuable standard Dictionary published. It weighs nearly 10 lbs., is 12 inches long, 10 inches wide, nearly 4 inches thick, and contains 1854 pages of 3 columns each, giving the spelling and pronunciation, with full explanations, of every word in the English Language, and as a source of general information on all subjects, stands next to the Cyclopaedia. The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country. The **United States Express Company** have kindly agreed to deliver the book at very moderate rates to any part of the country where their lines extend. It can also go by mail to any place within 3,000 miles for \$1.60, prepaid postage. Except to remote points, the expense will be much less by Express. (Persons living off from express lines, can usually have it delivered to some person on the line, and send for it at their convenience.)

Premiums Nos. 13 to 17—Back Volumes.

These premiums (13 to 17) will enable any one to secure the previous excellent volumes of the **American Agriculturist**, as far back as Volume XVI. We have stereotype plates and can print any number desired of the English Volumes 16, 17, 18, 19, and 20, and of the German Volumes 18, 19, and 20. These will be sent in clean, new numbers, each volume by itself, with index complete, and be forwarded *post-paid*. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired. They will be presented as in the table above, viz: For 16 Subscribers at \$1 each, (or 30 at 80 cents each,) we will present **five volumes**.—For 13 Subscribers at \$1 each, or 26 at 80 cents each, **four volumes**.—For 10 Subscribers at \$1 each, (or 20 at 80 cents each,) **three volumes**.—For 15 Subscribers at 80 cents each, **two volumes**.—For 10 Subscribers at 80 cents each, **one volume**.—Let every one selecting these premiums be careful to name just which back volumes are desired.

Premium No. 18—Paints.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of **Winsor & Newton's Water Color Paints**—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are

imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3,000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 81 cents for extra postage above the 6 cents per ounce which we pay.)

Premium No. 19—Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of **Osborne & Hodgkinson's Water Color Paints**, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium No. 20—Corn Sheller.

21 Subscribers at \$1 each, (or 40 at 80 cents each,) will entitle the person getting up the club to one of the best **\$6½ Hand Corn Shellers**. (Price \$6.50.) This is a convenient, useful implement, very frequently called for. We give the best implement to be obtained for the price.

Premium No. 21—Hay Cutter.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to one of the best **\$8 Straw and Hay Cutters**. This is a useful implement, needed wherever horses and cows are kept.

Premium No. 22—Subsoil Plow.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to the best **\$8 Subsoil Plow** (two-horse), a very effective and desirable implement.

Premium No. 23—Good Books.

Here is an opportunity to get a good library at little expense. Any person getting up a club of 16 or more names, may choose any desired Books from the list advertised on page 286, to the amount of 12½ cents for each name forwarded at 80 cents, (or 3¾ cents for each name sent at \$1), and the books will be delivered to the recipient free of all expense for postage. Persons making up a club for any of the preceding premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Business Notices.

Eighty Cents a Line of space.

STRAWBERRIES.

PARSONS & CO., of Flushing, L. I., offer Triomphe de Gand, and the other choice varieties at low rates. They also invite attention to their fine stock of

STANDARD PEAR TREES,

and other

FRUIT AND ORNAMENTAL TREES.

For Catalogues apply by mail.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE, }
New-York, Monday Morning, August 19, 1861. }

The following tables show at a glance the aggregate amount of business transacted in the New-York Markets, for a month previous to this date, and also a comparison with the previous month. (These tables and the information given in this review, are furnished by our experienced reporter who spends his entire time in the markets; and the information here given may be relied upon as being as correct as any that can be obtained.)

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS. Flour, Wheat, Corn, Rye, Barley, Oats.
26 days this month 325,000 2,434,000 136,217 114,700 449,000
26 days last month 472,000 3,105,000 1,132,000 188,000 54,100 477,000

SALES. Flour, Wheat, Corn, Rye, Barley.
26 days this month 460,000 3,523,000 3,561,000 163,500 None.
26 days last month 399,000 4,475,000 1,864,000 156,500 None.

The receipts of Flour, Wheat, Rye, and Oats, though large for the month, would have been in much greater magnitude, but for a break in the Erie Canal. The arrivals of Corn have been heavy, as have also been those of Barley, which latter article has been neglected by purchasers. The sales of the month show a large increase in the business in Flour, Corn, and Rye, with less activity in Wheat, the supplies of which have been inadequate to the wants of buyers. It is extremely gratifying to us to be able to report a very marked rise in prices of Breadstuffs. The current rates to-day show an advance of 25 @ 65 cts. on flour, per barrel; 10 @ 18 cts. per bushel on Wheat; 2 @ 4 cts. on Corn; 3 @ 4 cts. on Oats, and 4 cts. on Western Rye, over the prevailing prices on the 19th of July, to which date our last report was brought up. This encouraging improvement in the market has resulted mainly from the filling of large foreign orders. The amount of wheat and flour sent abroad from the port of New-York alone, since the beginning of this year, has been equivalent to over twenty million bushels of wheat! The export demand for the month has been very brisk, and has been chiefly for the British Islands and for France.

The harvest news from both countries has indicated a deficiency in the yield of the crops, even more serious than had been anticipated, and to procure adequate supplies for the ensuing year, our markets have to be resorted to. Fortunately our crops have been so good generally, that we can undersell all other countries, and this fact enables us, in a great measure, to control the markets for our produce. Foreign orders are coming here constantly, and the latest accounts from England promise a continuance of the present demand, if not a decided increase in it. Our latest news is by the Persia, which arrived on Thursday last. During the early part of the week in which she left Liverpool, the weather in England was reported as highly favorable, but on the day previous to her departure, it became quite unsettled, and serious fears were expressed for the safety of the harvest. A good demand prevailed in Liverpool and London, for Wheat wanted in France, and large sales of American could have been effected, if there had been sufficient ship-room available. In the New-York market, during the past week, the purchases on English and French account, particularly the latter, have been quite heavy, and have strengthened the confidence of holders materially. On Saturday, there was very little disposition to press sales, and the market was firm and buoyant. There is now a scarcity of shipping brands of Flour, and of desirable lots of Wheat and Corn; but as the break in the canal is reported as having been repaired, and navigation fully resumed, we may expect an immediate increase in the arrivals, that shall place us once more on a satisfactory footing in regard to supplies, which are really much wanted. Had there been enough Wheat or Corn, fit to ship in market, the past few days, a decidedly heavier business could have been transacted. Our quotations for Cotton show an advance of 2½ cts. @ 1½, since the 19th of July, resulting from the prevalence of an active demand, chiefly on speculation, while the available supply has been very small indeed. Rice has likewise risen \$1 @ 100 lbs., and been freely purchased by speculators. Wool has been more inquired for, and has improved slightly. The demand for manufacturing army cloth is likely to keep the price of wool well up. Tobacco has been in good request at very full rates. The transactions in Hay, Hops, and Provisions, have been moderate, closing tamely at our quotations below. Naval stores have rapidly advanced, and Groceries have also improved in prices. The changes in other branches of trade have not been very important. The table of current prices below, shows the changes in prices at a glance.

CURRENT WHOLESALE PRICES.

	July 19.	Aug. 19.
Flour—Super to Extra State	\$3 90 @ 4 50	\$4 45 @ 4 90
Superfine Western	3 85 @ 4 00	4 45 @ 4 55
Extra Western	4 15 @ 4 25	4 60 @ 4 70
Fancy to Extra Genesee	4 55 @ 4 75	5 00 @ 5 10
Super, to Extra Southern	5 10 @ 5 25	5 20 @ 5 30
RYE FLOUR—Fine and Super.	2 50 @ 3 50	2 25 @ 3 50
CORN MEAL	2 75 @ 3 07½	2 70 @ 3 20
WHEAT—Canada White	1 18 @ 1 25	1 30 @ 1 35
Western White	1 15 @ 1 30	1 30 @ 1 40
Southern White	1 20 @ 1 35	1 35 @ 1 40
All kinds of Red	1 12 @ 1 12	90 @ 1 30
Corn—Yellow	43 @ 50	51 @ 53
White	48 @ 52	52 @ 54
Mixed	39 @ 45	43 @ 50
OATS—Western	28 @ 31	32½ @ 33½
State	32 @ 33½	33 @ 34
RYE	46 @ 67	50 @ 65
BARLEY	Nominal	Nominal
HAY, in bales, per 100 lbs.	45 @ 70	40 @ 65
COTTON—Middlings, per lb.	15½ @ 16	18 @ 18½
RICE, per 100 lbs.	5 00 @ 6 00	6 00 @ 7 00
HOPS, crop of 1860, per lb.	16 @ 26	18 @ 27
FEATHERS, Live Geese, p. lb.	32 @ 38	30 @ 38
SEED—Clover, per lb.	None selling.	Nominal.
Timothy, per bushel	None selling.	do.
SUGAR—Brown, per lb.	5 @ 7½	5 @ 8
MOLASSES—New Orleans, p. gal.	35 @ 40	40 @ 45
COFFEE, Rio, per lb.	11½ @ 14½	12½ @ 15
TOBACCO—Kentucky, &c, p. lb.	4½ @ 16	5 @ 17
Seed Leaf, per lb.	4 @ 26	5 @ 26
WOOL—Domestic fleece, p. lb.	25 @ 45	25 @ 46
Domestic, pulled, per lb.	18 @ 35	29 @ 37
TALLOW, per lb.	8½ @ 8	8 @ 8½
OLIVE OIL, per gal.	Nominal	29 00 @ 35 50
PORK—New Mess, per bbl.	15 50 @ 15 62½	16 00 @ 15 00
Prime, new, per bbl.	10 00 @ 10	10 00 @ 10
BEEF—Repacked mess	8 25 @ 10 25	9 25 @ 11 25
LARD, in bbls, per lb.	8 @ 9	8 @ 9½
BUTTER—Western, per lb.	6 @ 12	7 @ 11
State, per lb.	8 @ 14	8 @ 14
CHEESE	8 @ 7	7 @ 7½
EGGS—New, per dozen	13 @ 14	10 @ 12
POULTRY—Fowls, per lb.	12 @ 14	10 @ 11
Chickens, Spring, per pair	62 @ 75	31 @ 50
Turkeys, per lb.	12 @ 14	9 @ 10
Wild Pigeons, per doz.	1 00 @ 1 25	88 @ 1 00
Dried Apples, per lb.	2½ @ 4½	4 @ 4½
Dried Peaches, per lb.	10 @ 12	10 @ 12
Dried Cherries, pitted, per lb.	10 @ 12	10 @ 11
Dried Raspberries, per lb.	10 @ 12	10 @ 11
POTATOES—Mercers, p. bbl.	2 37 @ 2 50	1 75 @ 2 50
June, new, p. bbl.	2 00 @ 2 12	1 50 @ 1 65
GREEN CORN, per 100		75 @ 83
ONIONS—Red, per bbl.		1 00 @ 1 25
TURNIPS—Hutabaga, per bbl.		1 25 @ 1 75
SQUASH—Marrow, per bbl.		20 00 @ 35 00
WATERMELONS, per 100		2 00 @ 4 00
NUTMEG MUSKMELONS, p. bbl.		31 @ 62
TOMATOES, per bushel		4 00 @ 5 00
PEARS—Bell, per bushel		1 50 @ 2 00
APPLES—Common, per bbl.		3 00 @ 4 00
Apples—good, per bbl.		1 50 @ 2 50
PEACHES, per basket		2 50 @ 3 00
HUCKLEBERRIES, per bushel	4 50 @	

Exports of Breadstuffs from New-York, from the 1st of January, to the second week in August, 1861:

	1860.	1861.
Wheat Flour, bbls.	784,286	1,528,553
Rye Flour, bbls.	5,197	6,537
Corn Meal, bbls.	56,550	66,850
Wheat, bushels.	3,147,279	12,454,063
Corn, bushels.	1,680,631	5,012,097
Rye, bushels.	6,000	288,952
Barley, bushels.	8,280	1,000
Oats, bushels.	99,900	142,464

Receipts of Breadstuffs at Detroit.

Receipts.	Past week.	Same week last year.	Since Jan. 1, '61.	To same date last year.
Flour, bbls.	6,966	12,025	464,596	195,510
Wheat, bushels.....	18,501	41,088	559,310	362,862
Corn, bushels.....	25,500	17,522	488,020	357,856
Oats, bushels.....	1,115	2,157	89,637	45,077
Rye, bushels.....	127	—	9,938	10,966
Barley, bushels.....	103	238	15,793	22,232

Receipts of Breadstuffs at Chicago, Jan. 1 to Aug. 14.

	1861.	1860.	1859.
Flour, bbls.	730,648	225,016	238,053
Wheat, bushels.....	6,753,020	3,191,276	1,692,752
Corn, bushels.....	14,223,838	11,794,391	3,290,464
Oats, bushels.....	800,694	754,382	434,096
Rye, bushels.....	187,420	75,913	42,416
Barley, bushels.....	332,326	205,723	127,410

The receipts at tide-water at Albany, of the principal kinds of Breadstuffs from the opening of the Canals to and including the 14th of August, have been as follows:

	1861.	1860.	1859.
Canal open.....	May 1.	April 25.	April 15.
Flour, bbls.	523,852	372,980	209,796
Wheat, bushels.....	11,811,333	4,480,923	696,003
Corn, bushels.....	8,060,289	7,642,394	1,392,881
Barley, bushels.....	187,420	75,913	147,191
Oats, bushels.....	2,595,028	3,547,727	2,347,931
Rye, bushels.....	387,984	121,967	99,146

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been fully supplied with beefs during a month past, averaging 4.133 per week. With a short supply, July 24, prices advanced $\frac{1}{4}$ c. per lb, but receipts of over 5,000 the next week carried them back, and there has been no important change since. August 13, prices ranged: for prime cattle, 8c. @ $8\frac{1}{2}$ c.; medium, 7c. @ $7\frac{1}{2}$ c.; poor 5c. @ $6\frac{1}{2}$ c.; with a general average of $7\frac{1}{2}$ c. per lb., estimated dressed weight for all sold. A few hundred were left unsold at each market for the past three weeks.

VEAL CALVES.—Receipts have averaged only 595 per week, for a month past. This is sufficient for Summer demand: prices have advanced $\frac{1}{4}$ c. per lb. live weight since our last report, when the market was overstocked. They now sell at about $4\frac{1}{2}$ c. @ 5c. per lb. for medium to best.

SHEEP AND LAMBS.—These have come in more freely, the weekly average for a month past being 12,353. The receipts were over 15,000 for one week. Prices are lower; ordinary sheep selling at prices equivalent to $2\frac{1}{2}$ c. @ 3c. per lb. live weight; good stock $3\frac{1}{2}$ c., and extra large fat sheep $3\frac{1}{2}$ c. @ 4c. Lambs are quite plenty, selling slowly at $4\frac{1}{2}$ c. @ $5\frac{1}{2}$ c. per lb. live weight. Most of the lots of sheep and lambs now coming in average \$2.75 @ \$3 each.

LIVE HOGS.—Receipts are lighter, numbering but 4,694 per week for a month past, all of which have readily been disposed of. Prices are 1c. per lb. higher than the very low rates last reported, being $4\frac{1}{2}$ c. @ 5c. per lb. live weight for corn fed, and $3\frac{1}{2}$ c. @ 4c. for still fed hogs.

The Weather.—At the date of our last report, the ground was becoming dry in this vicinity, and with the exception of brief showers July 20, August 1 and 8, the drouth continued up to August 12. Crops suffered badly, as they were parched for six successive weeks. In many parts of the country copious showers fell, but not hereabouts. On the 12th and 13th of August we had a very heavy fall of rain (over 4 inches) with continued cool weather afterwards, and crops have revived again, though many fields of potatoes, and some of corn were past recovery. —OUR DAILY WEATHER NOTES, condensed, read: July 20, thunder shower A. M., clear P. M.—21 to 29, mostly clear and hot, crops suffering for rain—30, clear, light shower at night—31, clear and hot.—August 1, 2, 3, clear and hot—4, clear A. M., fine shower P. M., but not enough—5, 6, 7, clear and hot—8, cloudy, heavy rain, at night—9, cloudy, with a light rain and shower at night—10, 11, clear, warm—12, cloudy A. M., rain P. M., with heavy showers at night—13, soaking rain wetting the ground thoroughly and raising springs, being the greatest rain for several years—14, to 16, clear cool—17, light rain A. M., clear P. M.—18, clear, warm—19, clear, mild—20, clear, fine.—From July 15 to August 15, 5.22 inches of rain fell, viz.: 22 July 20, 27 the 31st, 71 August 8, 9, and 4.02 the 12th and 13th.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

JULY.									
1.....64r	8.....71	15.....60	22.....66	29.....71r					
2.....60r	9.....74r	16.....65r	23.....63	30.....69					
3.....58	10.....72r	17.....62	24.....62	31.....71					
4.....63	11.....68	18.....68	25.....63	—					
5.....66r	12.....63	19.....68	26.....65	Av'g...66					
6.....64	13.....62r	20.....68r	27.....65						
7.....68	14.....64r	21.....63	28.....67						

AUGUST.									
1.....72	4.....72	7.....69	10.....68	13.....59r					
2.....72	5.....74r	8.....66r	11.....69	14.....55					
3.....72	6.....72	9.....62r	12.....68r	15.....58					

A man's character is frequently treated like a grate—blackened all over at first to come out the brighter after unlooked-for hard rubbing.

Sundry Reports on the State of the Crops.

The following are a portion of the reports we have gleaned from the correspondence of the *American Agriculturist*. They will be found interesting, and, taken as a whole, will give a very fair idea of the general condition of the crops throughout the country.

Bennington Co., Vt., Aug. 7. E. Cranston.—Wheat, late sowed injured somewhat by insects (Aphides).... Oats, below an average crop, injured by insects, and by rust.... Corn is poor, much replanted in Spring, and the season unfavorable; it was also injured by worms.... Rye is well headed, but thin.... Potatoes bid fair for a good crop.... Grass was heavy; the best crop since 1855.

Litchfield Co., Conn., August 2. Augustus H. Fenn.—Corn, more than average breadth planted, forward and promises well for a large crop.... Potatoes, large breadth, looking well, rather late in a good many localities.... Rye, average space sown—fine crop—mostly got in a good condition.... Hay unusually large crop—considerable damaged by getting wet.... Oats, large breadth sown, almost worthless, destroyed by lice, very unusual here.... Buckwheat not much sown, looks finely. Fruit, very poor, few apples, pears or peaches; was not, I believe, one cherry in the county.... Berries, wild or cultivated, unusually prolific. Help, good, cheap and plenty. Farmers prospering well, and just now looked up to by all others.

Bristol Co., Mass., Aug. 10. Charles Bryant.—Wheat raised until three years since. Spring variety sown, yield good; shall have seventy per cent of supply for home consumption.... Corn 30 per cent more ground planted than usual, and never looked better.... Potatoes small, but of good quality, with increased breadth of ground planted.... Hay full up to average, and (thanks to the *Agriculturist* for hay caps) was never better cured.

Saratoga Co., N. Y., Aug. 9. Abraham Marshall.—Wheat, Winter variety little sown; Spring, less than usual, both injured by a new insect.... Oats, less sown than usual on account of wet Spring; on dry grounds fair growth, other lands very poor, very late, badly struck with the rust, and all injured with a non-descript insect, which feeds on the sap of the fiber leading to the kernel. (*Aphis avenae*, see another page).... Corn; fair amount planted; stalk middling but very late; without hot weather and late frosts but little can be expected.... Potatoes, less planted than last year, tops very fine.... Grass abundant.... Fruit nearly a total failure, neither pears, cherries, nor plums.... Berries abundant.

Somerset Co., Pa., July 22. W. H. Platt. Farmers are busy cutting their grain, the yield of which, both in quantity and quality, has never been surpassed.

Lycoming, Columbia and Montour Co.'s, Pa., July 29. Daniel Steck.—Wheat about the same area sown as last year; uninjured by insects, and housed in good order—the yield will be the best we have had in ten years, say from fifteen to thirty bushels per acre: so far as already threshed I have not heard of less than twenty five bushels per acre.... Oats, a large area sown, the yield will be light in consequence of the ravages of an insect (*Aphis Avenae*).... Hay crop about an average, secured in good order.... Corn about the usual amount planted, say from fifteen to twenty five acres for every one hundred under cultivation; not as forward as same time last year but with a favorable season from this out, it will make an average crop.... Buckwheat, extensively sown.... Fruit, none except apples which will yield but a light crop.

Delaware Co., Pa., Aug. 9. Jacob Hewes.—Wheat, about 20 bushels per acre.... Oats, full average.... Potatoes promising.... Corn was never better.... Grass generally very heavy, say $1\frac{1}{2}$ to $2\frac{1}{2}$ tons per acre.

Lehigh Co., Pa., July 19. P. W. Flores.—The grain crops are good, though somewhat damaged by the cold of last Winter. Wheat and rye are harvested. Spring grain looks well, although the weather is very dry here now. Fruit is scarce; Cherries and Plums killed by frost in the Spring.

Chester Co., Penn., Aug. 10. Mark I. Cox.—Wheat, harvested in good condition; crop a full average; rust and fly but little known.... Corn, about the usual number of acres planted; looks well in the middle and southern part of county. The early part of the season was unfavorable to its growth, being cold and wet; but recently fine showers and hot weather, except in the northern part of the county which is dry.... Oats not as large a growth of straw as last year, but well headed, all harvested without any damage from rain.... Potatoes promise a very good yield. More planted than usual.... Hay crop was below the average.... Fruit; apples not over half a crop. Pears not very plenty.

Tuscarawas Co., O., Aug. 5. George H. Smith.—

Wheat considerably winter-killed, and in some sections injured by the midge—will average about two thirds of a full crop.... Oats, short, not quite an average crop.... Corn, planted late; much injured by worms, and drouth: the majority looks rather poor.... Hay, timothy an average crop; clover badly winter-killed.... Potatoes and garden vegetables have suffered from drouth.... Fruit was all killed by late frost, except a few apples.

Washington Co., Ohio, July 10. A. Harmer.—Wheat I have to plow under, and sow buckwheat, as the midge has destroyed all. We had no rain in 5 weeks, and Spring wheat looks bad. Of white Poland oats I have a small plot. They are four feet high and about 80 kernels in an ear; straw very strong.

Hancock Co., Ind., Aug. 2. W. M. Baker.—Wheat, harvested in good order; as a general thing will not hold out in weight; some pieces completely trimmed of beard and blades by the army worm. Bearded Mediterranean yields the best. White wheat hardly worth the cutting. Corn; about the same planted as last year, looks very well; most of it in tassel; will take but a few days more seasonable weather to make the crop a large and sure one.... Hay; a good growth, but some pieces badly damaged by army worms; Timothy seems to be a favorite with them.... Oats; a good height and pretty well filled.... Buckwheat; but little sown.... Potatoes; a considerable number planted, looking well.... Fruit; apples and pears will be scarce; peaches plenty compared with the past three years.

Randolph Co., Ill., July 15. James Coulter, Sen.—Wheat considerably more sown than any former year; yield large and grain of excellent quality; gathered in fine condition.... Corn, first planting generally destroyed by army worm; second planting seriously injured by chinch bug. Grass one half destroyed by army worms. Potatoes good, ready for use; a few bugs appearing. Fruit, apples poor quality; peaches first rate.

Logan Co., Ill., July 19. Alexander Leslie.—Wheat, Rye, Oats, and Barley, as good as we have ever known. Corn that was put in early is extra good. We will get no price for the above articles. Wheat is worth from 30 to 50 cents, Oats 10 to 15, Corn 9 to 12 cents. Plenty of old corn in the county. Pork 3 to $3\frac{1}{2}$ cents per lb. gross.

Fulton Co., Ill., July 20th. Albert P. Gallet.—Wheat crop looks bad. Corn very good. Oats look very well.

Saline Co., Ill., Aug. 2. James M. Eaton.—Wheat, about one fourth more sown than last year, gathered in good condition, yield larger than ever before.... Grass, double the amount raised last year and harvested in good order.... Corn about usual amount; somewhat injured by drouth, but with plenty of rain from now, will give fair yield.... Oats, small quantity sown, not very good yield, injured by rust.... Potatoes more planted than last year, look promising.... Fruit, apples not much grown, about half a crop; peach trees very heavily loaded.

Benzonia, Mich., July 12. George Thompson.—Wheat, corn, oats, grass, etc., look fine. A frost in June, and one on the 12th of July was injurious in some places.

Calumet Co., Wis., July 26. F. Hachez, Prest. Germ. Agrl. Soc.—Winter wheat extensively sown, especially in the German settlement; looks unusually well, though considerably damaged by smut; that which was soaked, rolled with lime, and sown early, escaped. Spring wheat not as good, from unfavorable weather, but prospects of 16 to 18 bushels per acre.... Barley little grown; condition about same as Spring wheat.... Oats largely sown—will probably yield 30 to 40 bushels per acre.... Peas are grown in large quantities instead of corn, which does not give a sure crop in this neighborhood. They look very good.... Grass; Timothy in the lower regions very fine; in the higher lands, bad on account of the unfavorable weather. Clover, wintered very well, and where plaster or compost was put on, very large crop. Hungarian grass good.... Potatoes look promising.... Corn middling.... Fruit, little grown, although a great many trees are being planted now.

Richland Co., Wis., Aug. 5. J. P. Kepler.—Winter and Spring wheat, about one half more acres than in former years; the former just harvested, and very good; the latter an average crop.... Oats, never better.... Corn, just in silk, looks well.... Potatoes and other vegetables tolerably good.... Grass is all cut, and was superb.

Lykins Co., Kansas, July 19. Joseph C. Sutton.—Wheat, both Winter and Spring varieties generally good, the latter somewhat injured by chinch bug. It is mostly harvested in good condition.... Corn, large amount planted, looks finely, is now almost in the roasting ear.... Potatoes generally good.... Sorghum destroyed by chinch bug in some localities, but promises a fair crop.... Prairie grass from 18 inches to 2 feet high. Hungarian grass very heavy.... Fruit; Peaches growing finely; Apples not yet in bearing; wild grapes and plums in profusion. Rather a wet season, and very warm, with frequent thunder storms.

Meade and Breckenridge Co's., Ky., August 1. T. C. Johnson.—Tobacco, an average crop put in, and is now promising well....Wheat, one fourth more sown than ever before; yield satisfactory, except of May wheat, which was injured by the cool and wet weather of May and June. Oats, one third less sown this year than last—fair yield—but no demand....Hay is a very heavy crop, though some fields were entirely destroyed by the army worm....Corn, though two weeks later than usual, was never more promising on the first of August....Fruit, most varieties of Peaches will be very abundant. Apples hardly half a crop.

St. Louis Co., Mo., July 18. Alton H. Hibber.—Wheat somewhat injured by rust and the army worm but a good crop....Corn, much replanted and rather late, but looks remarkably fine....Oats and grass very fine where they were saved from the army worm. This was done by ditching around the fields. The deficiency caused by the worm, will be more than made up by Hungarian grass... Fruit—Cherries were good, Peaches look well, Plums injured by curculio, and Grapes by blight—Apples hurt by late frosts; many of them are knotty and poor.

Prince Edward Co., C. W., July 15. "Aquila."—Cool backward weather has retarded crops. Spring wheat has mostly taken the place of Winter varieties here, and a greater breadth than ordinary was sown this year; it looks promising....Rye less sown than usual; was considerably winter-killed, but many fields look well....Peas and Barley are extensively cultivated here, and the prospect is good for heavy crops....Oats look well....Corn is very backward and I think will be light, but it is not a staple crop....Potatoes promise well....The Hay crop will be heavy....Fruit will be scarce; Cherries and Pears a failure; Apples very light; Currants, Raspberries, and other small fruits, plenty.

Our Exhibition Tables.

The following articles, not before noticed, have been recently exhibited at the office of the *American Agriculturist*.

GRAIN: White Poland Oats, and Black Poland Oats, very fine, by Wm. S. Carpenter, N. Y.—Sweet Corn, ready for cooking July 16th, by G. M. Usher, Staten Island, N. Y.—Oats from L. I. wild lands, good growth, by Michael Smith, Suffolk Co., Spring Wheat, splendid growth, some heads six inches long, by Thomas Carpenter, Westchester Co., N. Y.—Zea Caragua, or South American Corn, a magnificent growth, W. F. Heins, N. Y.

POTATOES: Early Algiers, planted April 16, dug June 30; Wm. S. Carpenter, N. Y.—Early Sovereign, planted April 27, ready for the table June 27, called earliest variety, known; also good specimens Dyckman and California Seedling, the latter of the finest quality, by W. F. Heins, N. Y.—Blue Mercers, said to have grown from white seed, by Garret G. Newkirk, Hudson Co., N. J.

TOMATOES, ETC.—Yellow seedling, red cluster, pear and plum shaped; also fine specimens of Apple or Custard Squash, White Egg Plants, and Fancy Gourds, by Wm. F. Heins, N. Y.—(The various specimens of vegetables, fruits, and flowers, contributed by this gentleman alone, would make an attractive display)—Apple, and Perfected Tomato, by W. Chorlton, Staten Island, N. Y.—Cluster of Tomatoes, 17 on one branch, weighing 3 lbs. 6 oz., by John Gardner, Suffolk Co., N. Y.—Potato Onions and Union Radish, by W. Oliff, Staten Island, N. Y.—Head of timothy 12 inches long, by R. D. Stober, Richland Co., O.

FRUIT: Green Myrtle Gooseberries, by George Hite, Westchester Co., N. Y.—Gooseberries, Prince Albert, White Smith, Warrington, Ironmonger, and Lincolnshire Green varieties, fine specimens showing careful cultivation, by Jame Hunt, Kings Co., N. Y.—Red Dutch Currants on trees two and three years old, splendid growth, by George H. Hite, Westchester Co., N. Y.—Mulberries, three varieties, by E. E. Clark, New-Haven Co., Conn.—Red Astrachan Apples, by Jacob McLane, Essex Co., N. J.—Ripe Figs, and branch in full bearing, grown in open air, by Henry Miller, Kings Co., N. Y.—Golden Harving Apples, a fine variety imported from Holland, shown by John A. Brush, Kings Co., N. Y.—Summer Belle Pears, by E. Williams, Essex Co., N. J.—Joslyn Black Cap Raspberries, 3d crop on new canes, by W. P. Peck, English Neighborhood, N. J.

FLOWERS: Yucca, in flower, by A. P. Cummings, N. Y.—Cut flowers in fine variety, from the grounds of the Proprietor of the *American Agriculturist*—Stock Gilly very fine, from imported German seed, by A. Mieliez, Queens Co., N. Y.—Hybrid Gladioli, many beautifully marked, also Larkspurs, new varieties, and Japan Lily, by Wm. S. Wilson, N. Y.—Medicago Scutellata or Snails, a curious plant, by W. F. Heins, N. Y.—Six pots flowers and variegated leafy plants, by the same.

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Beyond all doubt or controversy, the circulation of the *American Agriculturist* to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at any and all times to substantiate this statement.

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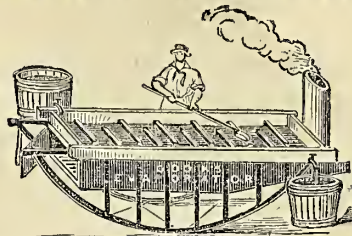
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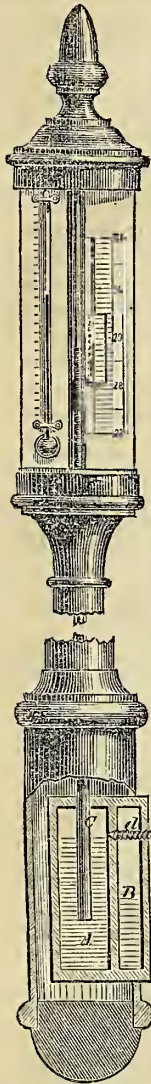
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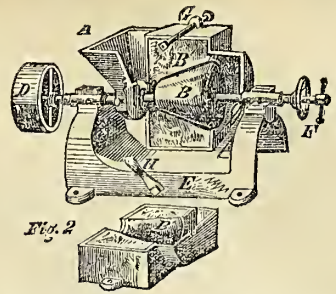
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The undersigned also make a Wire Bolt for No. 1 Mill, with which Farmers living at a distance from mills are enabled to make their own flour. Price \$50.

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The selections are made only from pure bloods, and chiefly from premium animals, which have been uniformly successful at our local Fairs. He refers to purchasers from him in all sections of the Union.

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Having imported per steamer New-York a lot of genuine Italian Bees, (which arrived in a remarkably good state,) I shall be able to furnish Apiarists with pure genuine ITALIAN QUEENS. For price and other information, apply to

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N. B. This being the last and only importation this season, the public can rely on getting a perfectly pure breed.

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SUPER-PHOSPHATE OF LIME.

MANUFACTURED FROM UNBURNED

Bones, by BAUGH & SONS,

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PHILADELPHIA.

Cash Price, \$45 per 2000 lbs.

FARMERS and DEALERS can rely upon the assurance that the character of this well-known manure is still fully maintained.

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MANUFACTURERS and PROPRIETORS,

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A. LISTER & BROTHER, TARRYTOWN, N.Y.

(For results of the present season see *American Agriculturist*, for August, page 332.)

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Contents for September, 1861.

Animals—Branding in Texas	Illustrated	269
Animals—Insurance on		268
Apples—Packing in Leaves		278
Barley—Nepaul Variety	Illustrated	261
Bedrooms—Ventilation of		278
Bees—Apiary in September		258
Bees—Mignonette for Feeding		268
Boys' and Girls' Columns—Editor with his Young Readers—About Picture of Pet Rabbits—A Little Girl's Logic—Lizzie and her Flower Seeds—Nobody's Baby—Caught in his own Trap—Explanation of War Terms—No. III.—How to Distinguish Officers of the Army—Problems, etc.	16 Illustrations	280, 281
CALENDAR OF OPERATIONS FOR THE MONTH		258
Cheese Making		269
Clothing—Cheap—A Dear Bargain		278
Coffee and Cotton in Africa		270
Consumptives—Cream vs. Cod Liver Oil		278
Crops—Reports on		284
Cuttings—Hint on Striking		273
Dahlia Look to the		275
Drainage—Laying out Drains	7 Illustrations	264
Drills—Which Way should they Run?		265
England—Land Cultivated—Work for Steam Plow		265
Exhibitions—Agricultural in 1861—Time and Place of		262
Farm Work in September		258
Flower Beds—Position of		275
Flower Garden and Lawn in September		258
Flowers in the House—How to keep Bouquets.	III	276
Fruit and Flower Decorations for the Table	3 III	276
Fruit—Apparatus for Drying	Illustrated	277
Fruit Gatherer	Illustrated	273
Fruit in Minnesota		274
Galvanism for Slugs and Snails	Illustrated	273
Garden—Kitchen and Fruit—in September		258
Garden—Love of the		277
Grapes—Cold Frames, and Hot-Beds for the Million	6 Illustrations	272
Grapes—Growing for Forcing		273
Grain, Winter—Sowing with Buckwheat		263
Green and Hot-Houses in September		258
Horses—Dentistry for Dobbin		268
Horses—Effects of Hungarian Grass on		268
Horses—Period of Gestation		267
Insects—The Army Worm		263
Insects—The Grain Aphid		263
Kansas—Farming Prospects in		262
Lantern Blinks. XXVIII.—Diogenes Redivivus Revisits Higgins' Rest		271
Leaves—How to copy on Paper		277
Literature—Agricultural, Extraordinary		271
Market Fairs in Illinois		266
Market Review, Weather Notes, etc.		283
Milk—Keeping in Hot Weather		279
Mills—Bolt—How to Clean		268
Mills—Farm—Bennet and Brothers'. 2 Illustrations		268
Mushrooms—How to Raise		274
Orchard and Nursery in September		258
Pickles—Greening with Grape Leaves		279
Plants—House, for Winter		275
Plowing by Steam—Howard's Apparatus.	Illustrated	265
Premiums offered for 1862		282
Prospect for Farmers		261
Raspberries—Cultivation of; Notes on Varieties.		273
Recipes—Cooking Eggs; Corn Yeast; Root Beer; Tomato Pickles; Glove Cake		279
Seeds—Free—Large Distribution for 1862		261
September—Suggestions—Farmers' Advantages		270
INDEX TO "BASKET" ITEMS		257
Advertisements—"Noticing"		259
Agricultural Societies—Hints to		259
Barometer—Mercurial		259
Bees in War		260
Bushel Box—Size of		259
Cattle—Great Sale of Herefords		259
Clover—Sweet Scented		259
Coffee—Condensed		259
Combustion—Spontaneous in Hay Mows		259
Copperas as a Disinfectant		259
Corn in the Crib—Measuring		259
Corn—Selecting Seed		260
Flax Cotton—\$500 Premium		259
Flowers—Facile; Helichrysum; Lupinus Nanus; Pink; Cornelyna		260
Grapes in Dwellings—How far Apart?		260
Grass Seed—Sowing Thickly		259
Hog Cholera—Potato Water for Hogs		260
Insects—Onion Maggot; Tar Water for		259
Land—Value of near London		259
Lime—Refuse from Kilns		259
Manzanito Shrub		260
Patent Office—New Agricultural Superintendent		259
Raspberries—Everbearing		260
Rhubarb—Cahoon's		260
Rockland Co. Farmers and Premiums		259
Soap Weed from California—A new Plant		260
Sugar Cane—Cook's Evaporator		259
Superphosphate—Raw Bone		259
Timber—Time for Cutting		260
Toads—Killing and Bloody Milk		260
Trees—Apple; Largest in America; Low Branching; Early Decay of		260
Trees—Transplanting Budded		259
Wheat from Illinois—Good Spring Variety		260
Wine—Turkey		259

ABOUT NEXT YEAR.

Large Premiums.

FREE SEEDS.

Bounty to New Recruits.

The motto of the *Agriculturist* has always been, and still is: "Published to do Good and Make Money."—Acting on this maxim, we have spared neither exertion nor expense, to make it a good paper, and to increase its circulation and good influence. That much good has been accomplished, our readers have abundantly testified. We might refer, also, to the thousands of homes that, during many years past, have been bettered, and beautified with-out and within, by its hints, suggestions, and plain, practical instructions. The amount of money we have made, is not worth talking about yet.—After so many years of strenuous effort, we had hoped to rest from EXTRA publishing labors for a year to come, but the times admonish us to the contrary. Our Southern subscribers are cut off for the present, and many of our Northern subscribers have exchanged the plow for the sword. To make up for all possible losses, and to reach a little higher circulation still, we are now ready to put forth any amount of further effort.—To those who will aid us by collecting clubs of subscribers, we shall not only be grateful, but we have provided to remunerate them for time and labor expended. See premiums on page 282.—To new "recruits," now, we offer a "bounty." See below.—To all subscribers, new and old, we shall not only offer a lot of good seeds (see page 261), but shall also try to give them just the best paper that can possibly be made.

Our business is arranged to give a large dollar's worth to every reader, and yet to save a small profit on each annual subscription—an amount so small on each, that no one would wish to make it less; still on our great circulation, even this affords a nice little sum that we would like to "store away." But in these hard times we are willing to divide the profits among our readers. So, after appropriating what may be needed to remunerate voluntary agents, we intend to "invest" the balance in distributing good seeds to all who desire them, and in improving the character, beauty, and real value of the paper.

3 Months Free.

As every person who reads a few numbers before January, will be quite likely to influence others to begin with the next volume, we make the following offer:

To all new subscribers for 1862, (Vol. 21,) whose names are received during September, we will send the paper for the remaining three months of this year without charge; that is, we will send the paper 15 months for the regular price of one year. This offer extends to all new subscribers received this month, whether in premium clubs or otherwise, and also to very distant subscribers received after October 1st.

Will all our present readers please make the above offers known to their friends and neighbors? The extra three months free, will lead many to subscribe.

Will it Pay?

(A Dialogue, "made to Order.")

(not) MR. SMITH.—See here, neighbor, I want to advise you about making a small extra investment, in these hard times—say a dollar.

(not) MR. JONES.—What is it? Will it pay?

1st Speaker.—Well, it has paid me for twenty years past, and it is likely to pay better now than ever before.

2nd Speaker.—I am in a hurry, but what is it?

1st Speaker.—You see the great piles of papers on those shelves—twenty large volumes of them. Here just look at a single volume. You see there are 264 great pages, more than twice as large as a common magazine; and if you will count up, you will find about a thousand ar-

ticles or "pieces" each one of which gives some useful instruction about field work, or orchard work, or garden work, or house work, or about various farm and mals, or something for the young people; and see how many fine engravings there are that show just how things look—why there are hundreds of them in this one volume.

2nd Speaker.—Must be much trash in so many things!

1st Speaker.—I have not found any. There may be some—it would be strange if there were not—but I find plenty of good things, enough to pay a hundred fold. Why, if I only valued one item in every ten, these would cost me only a cent apiece, and I have found many hints that have each paid me more than a dollar.

2nd Speaker.—What about the "extras" for next year?

1st Speaker.—Well, you see, in addition to what you find in this one volume, (the next one will be quite as good, I suppose,) the publisher is offering some extra inducements for these "war times." If you send on your name now for the next volume, which begins January 1st, you will get the paper for three months of this year free. Then, the Editor is going to present to each subscriber a lot of good seeds, next Winter. He has done this every year, but on account of the reduction in the postage on seeds, and other reasons, he is going to send an extra lot this year.

2nd Speaker.—It must pay. Will you send my name?

1st Speaker.—Yes, with pleasure.—I forgot to tell you that the Publisher of the *Agriculturist* has offered \$240 for information from practical experienced men, about cultivating Fall and Spring Wheat, Corn, Oats, Apples, Peaches, small fruits, feeding animals, fattening animals, and about the Kitchen Garden, and Flower Garden. From all these contributions of experienced men, the 12 best articles are to be selected, and \$240 paid for them, and these are all to be published in the *Agriculturist*. So we shall each in reality get, for one dollar, all the information for which the publisher pays \$240!

2nd Speaker.—Well, I'll try the paper, as you say you have had it for 20 years, and find it all right. I guess, from its looks, it will be good for wife and children too. But how is so much given for so little money?

1st Speaker.—It was all explained in the paper last Winter. You see, the *Agriculturist* has about twenty times as many subscribers, as most other papers have. So the publisher saves the expense of nineteen business offices, nineteen printing presses, nineteen sets of office men—editors, clerks, foremen, type setters, etc.—because one set answers just as well for a hundred thousand as for one thousand subscribers. So, you see, the publisher has more profit to expend in making a good paper, in getting fine engravings, and in raising and buying good seeds for distribution; and also for offering premiums. This explains it all.—But you need not wait for me to send. Just write your name on a piece of paper, with Post Office, County, and State, and say "Send *Agriculturist* for 1862, and the extra numbers." This is all the writing needed. Enclose it with a dollar, seal tight, and direct it plainly to: Orange Judd, 41 Park Row, New-York City.

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS, for the LAWN or YARD; care of DOMESTIC ANIMALS, &c., &c., and to HOUSEHOLD LABORS. It has also an interesting and instructive department for CHILDREN and YOUTH.

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The Editors and Contributors are all PRACTICAL WORKING MEN.

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A German edition is published, of the same size and price as the English, and containing all of its reading matter, and its numerous illustrative engravings.

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All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, 41 Park Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

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NEW-YORK, OCTOBER, 1861.

NEW SERIES—No. 177.

Office at 41 Park-Row, (Times Buildings).
Contents, Terms, &c., on pp. 317-20.

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American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



October.

"But farmer, look, where full-eared sheaves of rye
Grow heavy on the thill, that soil select
For apples; thence thy industry shall gain
Ten-fold reward; thy garner, thence with store
Surcharged, shall burst; thy press with purest juice
Shall flow, which, in revolving years, may try
Thy feeble feet, and bind thy flattering tongue.

Who'er expects his laboring trees should bend
With fruitage, and a kindly harvest yield,
Be this his first concern: to find a tract
Impervious to the winds, begirt with hills,
That intercept the Hyperborean blasts
Tempestuous, and cold Eurus' nipping force,
Noxious to feeble buds."—PHILIP'S "CIDER."

Brown October is here with its bursting barns and full granaries, its falling leaves and fruit. The season admonishes us to plant fruit trees, as well as to gather in the fruit harvest. Why is it, that so many farmers' families are content to go without fruit, in a land whose soil and climate are so congenial to fruit that the humblest efforts at horticulture are rewarded with success? Intelligent pomologists, who have seen the fruit shows of Europe, tell us that they do not excel our own, notwithstanding their larger experience and skill. The apple grows almost every where in our broad land, and most of the large fruits have quite as wide a range of soil and climate, though they are much less abund-

ant. Apples have been most common, probably because they were the most common fruit of the father land, and were planted by the first settlers of the country. They were found to flourish much better here than there, and the seedlings which were soon originated upon American soil, were improvements upon any thing ever seen in England. In a virgin soil, the tree would grow anywhere with luxuriance, and only needed to have a clear field to yield abundant fruit. The pear was rather an aristocratic tree, and needed much more careful culture in England than the apple-tree. Here the standards flourish quite as well as the apple tree, and seem to have fewer enemies, and to be quite as productive. Yet the market has never been adequately supplied, and the finer varieties of pears bring two and three times as much as the best varieties of apples. A pear orchard of any considerable extent is still a novelty even in the oldest parts of the country. Apple orchards, though common, are still far below the wants of the country. Hundreds of farms where the apple is as hardy as the forest oak, are still without a good orchard.—It is somewhat amusing to hear the reasons assigned by thriving farmers, for the great mistake in their husbandry, of not planting an orchard?

It is never admitted that they do not love fruit. There is hardly a man or woman in a thousand that is not fond of every variety of fruit. Every boy sighs for his neighbor's apples and pear trees, and not only breaks the tenth, but the eighth commandment, in the eagerness of his desire. Watermelon patches are proverbial plunder on moonlight nights. With many the reason of this failure is their unsettled condition. They do not own the soil they cultivate, or they are expecting soon to sell out and emigrate. The planting of an orchard is regarded as a work for another generation.

Others do not believe that the raising of fruit pays as well as other departments of husbandry. In the first place, one has to wait several years before he can expect any returns whatever, for his labor. In raising corn and potatoes there is something to sell every Fall. Fruit has many enemies not only in the shape of insects but of bipeds, who seriously interfere with the profits of the orchard. Some are remote from a good market, and though the depot is within an hour's ride of the farm, they have never thought of railroad conveyance to a market. Others admit the advantage of planting an orchard, and have always been intending to do it, but they have had so much work upon their hands that they have never quite got ready. Money is scarce, and the nurseryman wants cash. These objections, however unsubstantial, are real to many farmers, and possibly to some of our readers.

We have been eating fruit for three years, from apple trees planted only eight years ago, and from pear trees planted much more recently.

They bear with increasing abundance every year, and it seems to us so feasible and so profitable, to stock an acre or two with fruit trees, that we can not let the season of tree planting pass without a word of exhortation.

A home surrounded with well grown fruit trees and vines adapted to the soil and climate, is one of the most beautiful objects we meet with at this season of the year. Every one admires the dwelling however humble, that looks out upon the street, through shaded walks, through fruitful gardens and orchards. What can be finer than a well grown pear tree, hung with its yellow fruit, an apple whose boughs are bending to the ground with their ruddy burden, or a vine loaded with its purple clusters. These are cheap and substantial ornaments, that any man may plant around his home. The green upon his window, and the paint on the dwelling will require frequent expensive renewal; every returning Spring will bring out the living ornaments in new dress without money and without price.

There is no greater misconception than the popular notion that fruit growing does not pay as well as other branches of husbandry. It requires some capital, some skill and patience, to wait for returns. But capital and skill invested here are certain to have their reward. It is no uncommon return for an acre in apple trees to yield a hundred dollars, while under favorable circumstances and high cultivation, the yield is two or three times greater. Farmers who have gone most largely into fruit culture, are generally the best satisfied with it. It furnishes something to sell from August until March. The early apples have to be marketed in their season, but the Winter varieties can wait for good prices from three to six months without damage to their quality. Pears though more perishable than apples, and requiring more skill in their handling and ripening, are enough higher in price to make them profitable.

Not the least advantage of an abundant supply of fruits in the family, is their influence upon health. At this season of the year they are a great safeguard against fevers and diseases of the bowels, and were they freely eaten in all our families, the sick list would be greatly diminished. The craving of children for fruit, almost universal, is not so much an evidence of total depravity, as the working of instinct, seeking what it does not find in bread and meat.

Then, as we have referred to the children, and mean to say a good word for them, there is no tie to bind them to the old homestead, outside of the warm currents of domestic love, like the fruit yard and orchard. Who does not recall among the happy memories of his childhood, if he were so highly favored, the old trees whose shade was his play ground and whose fruits were his daily food, the garden walks lined with berries, and the vines upon the arbor and house-side that grew purple in the October sun.

Calendar of Operations for Oct., 1861.

[A glance over a table like the following will generally call to mind some piece of work that would otherwise be forgotten or neglected. The remarks are more especially adapted to places between 38° to 45°; but will be equally applicable to points further North and South, by allowing for latitude.]

Explanations.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm* or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

Much profitable labor may be done on the farm in October. The chief business will be to secure the root crops, and to husk the corn and properly store the fodder. Permanent improvements in necessary buildings, fencing and draining, add to the available capital, and should not be neglected from false economy; the present month is a favorable time for this work.

Apples—Finish gathering before exposed to injury from frost, and market or store for future use. Cooked apples are valuable food for stock, when too poor to dry.

Buildings—Examine thoroughly and make all needed repairs. Clear out eaves troughs, and arrange drains to carry away surplus water, especially from the manure heaps. Now is a favorable time for painting buildings.

Butter properly made early in October is of the best quality. Store sufficient for Winter use, working it well.

Cabbages—Gather and store, *ll*, except the latest.

Cattle—Commence feeding before the pastures fail. Use the tops of roots and refuse from the garden, etc. Read article on page 300.

Cellars—Follow directions of last month. Secure good ventilation, particularly where roots, etc., are stored.

Corn—Husk, *f, m*. Select the best ears for seed, trace them together, and hang up to dry. Store all stalks, leaves, and husks for fodder. The thick butts may be used in the pig pen; swine will soon work them into manure. Store corn in well ventilated cribs.

Draining may be attended to while the weather permits. Read articles in this and previous numbers.

Grain—Thresh out, *ff*, if not done, and store in tight bins secure from vermin. Market when prices are remunerative. Save all straw for feeding and litter.

Hogs—Commence fattening early. Cooked food pays best. Keep pens well ventilated, clean, and supplied with plenty of litter.

Ice Houses—Build, if not already supplied. A cellar is not needed; ice may easily be kept above ground if the house is properly built, with good ventilation and draining.

Manure—Provide an abundant supply of muck to absorb liquid manures, and for making compost. Use weeds and other refuse from the garden and elsewhere, including all falling leaves, to increase the compost heap.

Plowing late in the Fall is very beneficial to stiff clay soils intended for tillage next year. Leave the ground without harrowing, to expose as much as possible of the surface to the action of frost.

Potatoes—Harvest before injured by frost, and market, or store in the cellar. If room be scarce, they can be buried in heaps in the field with safety.

Poultry—Cleanse the poultry house thoroughly and whitewash it. Remove and carefully save all droppings. Provide a good supply of gravel for Winter use. Commence to fatten poultry early. Read article on page 301.

Pumpkins—Feed to milk cows and fattening stock, first removing the seeds. Store any surplus before injured by frost. They may be kept quite late by covering with straw or stalks. Handle with care to prevent bruising.

Roads—Put in good repair before the Fall rains. Keep sluice ways open, and arrange them if possible so as to distribute the wash from the road over the adjoining fields.

Roots—Beets and carrots should be harvested and stored in the cellar or in pits, *m, l*. Remove all tops, and feed to cattle. Handle carefully to prevent bruising. Leave them exposed a day or two before storing to part with superfluous moisture. Turnips may be left until next month, except in very cold northern regions.

Sheep—Keep thriving by an occasional feed of roots and grain with hay, as the pastures fail. Salt regularly, and give free access to water.

Sorghum Sugar Cane—Cut and manufacture as soon as fully ripe, and before injured by frost. If all can not be worked up before cold weather, house or otherwise protect the stalks until used, which should be as soon as practicable after cutting.

Tools—Leave none exposed to the weather. If you have no tool room provide one, or at least put them under

cover. Put all in repair in leisure hours. Repaint wood work, clean all iron and steel surfaces and coat them with a mixture of lard and resin to preserve from rust.

Trees—Plant abundance of fruit and ornamental about the dwelling, in the fields, and by the road-side.

Orchard and Nursery.

The labor of harvesting the fruit crop this season, is unfortunately light in many sections. The chief cause of the small crop was the heavy frost in Spring just as the trees came into bloom. There is no preventive for this except planting in a cool backward place, or mulching about the roots to prevent an early growth. But if the trees failed to produce a crop of fruit from exhaustion of the soil, a good coating of manure, or a compost of muck and lime, or ashes, mixed with stable manure, applied at almost any season will produce a thrifty growth and prepare the way for future crops. A large portion of the fruit is borne on shoots and spurs of one or two previous seasons' growth, and if this growth has been feeble the future crop must be light. Manure applied now will be carried into the soil by Fall rains, and be in condition to be taken up by the rootlets in early Spring. It is not enough to spread it for a few feet about the trunks of old trees, for the fibrous roots which take up the manure, extend six to ten and twelve feet from the trunk. The best way is to spread the manure uniformly over the whole ground. If the soil has not been stirred for many years, plow it lightly, turning in a good coating of manure.

In addition to manure, if the orchard is young but unthrifty, a severe cutting back will often benefit it. Some of the roots may be diseased, and the nourishment furnished by the others be insufficient for the top. By cutting out some of the branches and heading back the others, new vigor will be forced into those remaining. If on the other hand the tree is growing too vigorously, producing little fruit, dig about it and with a sharp spade root prune it moderately, and head back next Summer to induce fruit buds.

In gathering apples and pears for keeping, much care is required. Slight bruises mar the appearance of fruit and hasten decay. Pick carefully by hand, or with one of the fruit gatherers shown in this or the previous *Agriculturist*, and lay with care in baskets or barrels, before taking to the cellar, keeping covered from rain, if in the orchard. Only remove to the cellar upon the approach of cool weather, and then keep the cellar cool and well ventilated. It is still better to place them in an out building until there is danger of freezing. Both apples and pears keep best in a temperature but little above freezing, with a moderately dry atmosphere. An ice house will often keep Bartlett and other Fall pears into Winter. It is better to leave late fruit upon the trees till cold weather unless there is danger of their being blown off.

Cider making will be commenced the last of the month. Use only sound apples, leave the mashed apples in the juice for twenty four hours before pressing, fill the clean sweet barrels and put in a cool cellar, allowing the fermentation to go on slowly for a few weeks, when the barrels may be bunged up tight.

Dry a good supply of Autumn fruit for Winter use, planting the seeds for a nursery stock. Before the close of the month, business should be lively in the nursery. Many persons who deferred planting trees in the Spring owing to the "times," are now contemplating setting an orchard. We advise them to do so, as soon as frost has killed the foliage, rather than wait till Spring. See article page 303, on Fall transplanting. We wish to be emphatic in our advice to plant fruit trees, and on well drained or naturally dry soil, we would set the hardy apple, pear, and quince trees early this Fall—the stone fruits, and some of the tender pears may be left until Spring.

In addition to taking up and sending away trees for present planting, the nurseryman should now collect seeds of apples, pears, quinces, with nuts, acorns and seeds of the various ornamental trees and shrubs, and plant at once, or mix with earth and leave in boxes in exposed situations. See that the boxes are not water tight or they may retain too much moisture.

Kitchen and Fruit Garden.

The work of the month in this department is principally securing the remaining squashes, cabbages, potatoes, beets, etc., before they are injured by frost. Something may be done to forward next Spring's work. As fast as crops are removed, clear the ground of weeds, and dig it over, to remain exposed during Winter; this will mellow the soil, and destroy many insects. Tops of roots and other refuse may be fed to cattle, and weeds, etc., be carried to the compost heap.

Asparagus—Make new beds now rather than in Spring. Spade up the ground 18 inches deep, work in 6 inches of

horse manure, and plant two-year-old roots a foot apart each way, about 4 inches below the surface.

Beets—Pull before injured by frost, twist off the tops, and if the weather be fair, leave to dry before housing.

Blackberries—Set out a full supply of improved varieties, in soil enriched with compost of leaves, turf, and well rotted manure. Plant 4 feet distant, in rows 8 feet apart.

Cabbages and Cauliflowers—Harvest, *ll*, except those planted latest. Set young plants in cold frames, *m, l*.

Carrots—Dig, cut off tops, and store in cellar, *m, l*.

Celery—Earth up, *ff*, on a clear dry day, after the dew is off. Keep the soil from falling between the stalks, which would cause them to rust and spoil.

Cold Frames—Prepare, *m, ll*, to protect cabbage, cauliflower, lettuce, etc., in Winter.

Currants and Gooseberries—Transplant, *m, l*. It is better to set them in open ground than close beside fences where they are cultivated with difficulty. The Versailles, Red Dutch, and White Grape are standard varieties.

Fruit Trees—Plant hardy sorts, *m, l*. It is better to have fruit trees in an enclosure separate from the garden, except perhaps a few dwarfs.

Grapes—Gather as they ripen for use and for market. For keeping in Winter leave them upon the vines as long as may be without danger from frost, gather carefully, cut out defective berries, and pack in shallow, close boxes, between layers of cotton batting. Keep in a dry place, secure from freezing. Transplant vines, *m, l*.

Lettuce—Transplant late sown to cold frames, *ll*, for Winter use. Or seed may now be sown in the frames.

Mushrooms—Make beds, *f, m, l*. Protect from frost. For full directions see last month, page 274.

Onions sown late, for early use next Spring, will need protection from frost; cover with an inch or two of straw.

Parsley—Cut back the growth that new shoots may form. Sow seed in frames for Winter use.

Parsneps—Leave the main crops in the ground until Spring—they need no protection, and are improved by freezing. Dig what are wanted for Winter use, *ll*, and bury in sand in the cellar.

Pickles—Gather and pickle cucumbers, unripe muskmelons and tomatoes, or pack in salt for future pickling.

Raspberries—Hardy varieties may be transplanted, *m, l*, though Spring is a more favorable season. Lay down canes of tender sorts, and cover with a little earth.

Rhubarb—Plant roots or crowns of improved varieties *m, l*. Sow seed at same period.

Salsafy or Vegetable Oyster—Treat same as Parsneps.

Seeds—Select the best as they ripen, preserve and label carefully, with the name, and the year of growth. Select the best roots and store apart to raise seed next year.

Spinach—Protect with a covering of litter, *ll*, that sown last month for Spring. Weed and thin former sowings.

Squashes—Gather before injured by frost. Leave the stems on, and avoid bruising. Store in a cool, dry place.

Strawberry Beds—Finish setting out, *ff*, if not already completed. Cover beds, *ll*, with an inch of straw or other litter to afford partial protection.

Tomatoes are easily preserved in bottles, according to directions given in previous numbers. The fruiting may be prolonged by protecting the vines from frost with a covering of thin cloths to be removed in the day time. Use unripened fruit for pickles.

Trenching—The present is the best season for this work. Read article on page 307.

Turnips—Store or market early varieties, *m, ll*. Ruta bagas and other late kinds will grow until next month.

Winter Cherries—Collect as they ripen, and preserve, or leave them in the husks to be used as wanted.

Flower Garden and Lawn.

The chilly nights remind the gardener that it is time to remove tender plants to their winter quarters. It is not best to leave them out until there is actual danger of frost, for plants which are to be kept in a thrifty growing state during winter, should not receive the chill even of an atmosphere as low as 40°. Removing these flowers from the borders will leave a barrenness unless this was provided for by a judicious arrangement of dahlias, chrysanthemums, and other late bloomers. Where there are no suitable houses for keeping plants over winter, a "flower pit" can be cheaply constructed, which will serve a very good purpose. It is simply an excavation in the dry earth, four to five feet deep, in the bottom of which the pots of half hardy plants are set, and the whole covered over with plank and earth. The sides may be of brick, or boards even. It should only be covered with earth when there is absolute danger of freezing, and it should be ventilated occasionally in mild weather, during the winter.

The Dahlia and Chrysanthemum are the chief attrac

tions now, and if a good selection of each was planted, the early flowers are scarcely missed. Some of the new seedlings of both kinds are really superb, and many of the old sorts not to be despised. Keep well secured to stakes, or the autumn winds will make sad havoc with them. Some of the bedding plants are still in flower, and will remain so and be nipped by frost unless lifted and taken inside at the proper time.

Bulbous Flowers should now be set for early Spring bloom. They will flourish in a common garden soil, and richly repay the cost and trouble. A fine collection of Hyacinths, Tulips, Crown Imperials, Lilies, Iris, Jonquills, Narcissus, Crocuses, and Snowdrops, is a beautiful sight at any time, and the more so as they bloom early in the season, some of them while the snow bank yet lingers in the shade of the fences. A single bed can be made of all these varieties, or if the grounds are ample, it is well to devote a bed or plot to each sort. Spade deeply and trench if possible, working in plenty of fine old manure. Plant the larger bulbs four inches deep, and eight to twelve inches apart, using a little sand, if accessible, around and over the bulbs. The smaller crocuses and snowdrops may be set three inches apart, and one inch deep. Of course, taller plants should be in the center, if the bed is circular. See article on page 306.

October is a good month for grading, trenching, and turfing, or seeding the lawn. If there is not time to trench, or the grounds are so large that the expense is too great, at least subsoil thoroughly, working in a generous supply of well rotted manure. Where turfing is used, let the sods be beaten down, and sift in fine soil or sand, to fill any crevices. If grass seed is sown, mix in a little Winter rye to assist in protecting the roots during Winter. The sowing should be done early in the month. Roll the ground after sowing, and again just before hard freezing weather sets in. (See Basket Item.)

The flower borders, and indeed the whole ornamental grounds are too frequently neglected late in the season, weeds taking the place of former bloom, and dried flower stalks and decaying leaves marring the beauty of the beds and grass plots. Carefully remove all offensive objects, raking the dry leaves from the lawn, cutting away the dead flower stalks. If a spot of ground is entirely bare of plants, spade it up, rake smoothly, and it will not offend the eye all through the winter months.

Many of the perennials, such as Hollyhocks, Pæonies, Phloxes, Lilies, Sweet William, Bee-larkspur, Iris, Tradescantia, Foxglove, Campanulas, Rocket, Mallows, Spiræa, Clematis, etc., should be transplanted the last of this month, if moved at all, instead of leaving them until Spring. Save a good stock of late ripening seed, selecting the best of each sort from the previously marked specimens, and properly secure for another season.

A large portion of the hardy flowering shrubs will make a better growth next season, and show a finer bloom if planted this Fall. Among them are Pyrus Japonica, Dwarf Almond, Hardy Azalias, Sweet Scented Shrubs, Scotch Broom, Mezereon, Forsythias, Flowering Thorns, Stuartias, Deutzias, Honey suckles, Euonymus, Altheas, Hydrangeas, Glycine, Jasmine, Privet, Mahonias, Syringas, Flowering Currants, Purple Fringe, Spiræas, Snowberry, Lilacs, Viburnums, Roses, Chinese Weigelia, etc.

Excepting Evergreens, plant the hardy ornamental and shade trees as soon as the leaves fall. There is more leisure at this season, and many trees do better when planted early in the Fall. See if there are not a few vacant places about the buildings, in the yards, or along the avenues, where a few trees would add beauty to the place, and break up the sameness, or afford a desirable shade from sun, and screen from high winds. Do not plant tall trees too thickly near the dwelling. Set them a little in the distance, with shrubs near the buildings. It is desirable to have some sunshine and a circulation of air around the house.

Green and Hot-Houses.

First look over the suggestions offered last month. Every part of the buildings should be neatly cleaned, as it will be more difficult to do this after plants are brought in. It is high time for most tender plants to be in out of the cold. Securing those still out, and potting and preparing for Winter will be the main work of this month. Some fire heat will be needed among the tropical collections, and those to be forced into early bloom. Care must be taken, however, not to excite a too hasty weak growth, remembering that the atmosphere without is cool at this season, and that all changes should be gradual. For many plants, simply protection from frost is all that is now wanted, and for these no fire is needed.

In taking in the various collections, be careful to cleanse the pots from moss, weeds, etc., and see that no dead leaves or decaying branches are left upon the plants to taint the atmosphere with their impurities and offend the eye by their unsightliness. Cut or pinch back freely to

make strong bushy heads, by inducing vigorous new shoots. In arranging them upon the shelves it is well to group them according to their habits, those which require much heat in one room, and plants requiring a more temperate atmosphere in another. They should, at the same time, be arranged with reference to their height, the low growing ones in front, and the taller varieties back, or better still, have shelves arranged to rise above each other.

A large supply of potting soil should be in readiness, as there is much repotting to be done at this season, besides providing for seedlings and layers now in the open ground.

The houses will need syringing occasionally to keep up a humid atmosphere. It will also be beneficial in keeping down insects. As the plants are not growing vigorously, only a moderate supply of water will be required. It is better at this season to apply it in the morning.

Ventilation should be properly attended to. More air is required for plants just brought in, than when they have been long in the house.

A few quick growing annuals should be sown at once, for a mid-winter bloom. They will come in well, and furnish a variety with the early and late flowering perennials. Some of the flowering shrubs should also be potted and forced into a winter bloom, especially if cut flowers or bouquets are to be wanted.

Special care should be taken to guard against insects: if these are once freely introduced, it is often very difficult to expel them. Probably the very best method of treating plants badly infested with green fly, red spider, or any other insects, is to dip them inverted into water heated from 120° to 130°, keeping them there for a few seconds. The Gardener's Monthly recommends holding them five seconds in water raised to 130°. This will smother the insects, without injuring the plants.

Apiary in October.

Prepared by M. Quinby—by request.

It is now time to decide on what colonies to Winter... Most of the loss during Winter and Spring, is the result of undertaking to keep improper colonies, or of bad management. The chances of success with a colony that is now in just the right condition, with honey enough, and the right number of bees, are three times better, than with one that needs to be supplied with some food. We can not supply a deficiency, and then have the same natural condition as when the bees provide for themselves. Where increase of stocks is not particularly desired, the good ones only should be saved. But many, and especially beginners without experience, will want to keep all they have, and it is important that they attend to any deficiencies that can be supplied this month. Success will very much depend on doing things at the right time. Examine them the first cool morning. A strong colony extends through all the combs. One of only moderate strength, will often make a show of a large swarm, if the combs are badly diseased, or very full of honey. If a stock lacks bees only to make it good, they may be added from some condemned colony, paralyzing both with puff ball smoke when uniting them—See directions for the process in *Agriculturist* for October, 1860.

When there are bees enough, but honey is lacking, it may be provided, if there are combs enough in the hive to hold it; if not, the bees should be taken out, and the hive and contents set away for another year, or the honey given to some other light stock. If honey in the combs when fed should have the sealing of the combs cut off, and placed either under the bees—the bottom of the hive fitting down close, to keep out the robbers—or placed on the top, covering with a close box. When no honey can be had but such as is taken from diseased stocks, it must be strained and scalded, or disease will be communicated. Add a little water to prevent burning, and take off the scum as it rises. Put it in a shallow dish, with some floating material to keep the bees from drowning. Feed them as fast as possible to the required weight—20 or 25 lbs—otherwise they consume a great deal in rearing brood which the feeding will always induce. West India honey when used, should be managed in the same way. Honey prepared for Winter stores, should be as near the consistency of that stored by the bees as possible. If too much water is left in it, it is apt to induce dysentery, but it is quite sure to burn in scalding, if some water is not left in it. When no other feed but sugar is used, I think it is better to give it in the Winter than now. Candy alone has proved a failure with me.

Condemned colonies should now be disposed of. When the bees are to be killed with the fumes of the sulphur pit, it is much the best way to drive out the bees first. It takes less time, than to get them out when removing the honey after being smothered between the combs. The honey also, will be free from any of the effects of burning sulphur. Break up such combs as are to be strained, immediately on the removal of the bees; the honey will run out much more freely than when cold. If the combs

are not too old, a few pieces nearly free from bee bread, may be found near the top and sides of the hive, which will do for the table without straining. The inferior honey is near the middle and bottom, and should be strained. Among the different methods of doing it, one is simply to mash it and pour through a sieve or colander to skim off the particles of comb. A box answers a good purpose for large quantities. It should be about four feet long, sixteen inches wide, by five deep, and wire cloth bottom. This should be on a frame four feet high. Under the box is a board of the same width and length, with narrow strips nailed on the edges to keep the honey from running over the side. One end is raised, and the honey drains from the other into some large vessel, half barrel or firkin. The particles of combs will all rise to the top in a day or two, it can then be drawn from a tap near the bottom perfectly clear. To prevent its becoming very hard in cold weather, put two gills of water to ten pounds, mixing thoroughly. If preferred in the solid form, fill shallow dishes to the depth of an inch, and expose it to the coldest weather for a few weeks. Metheglin and vinegar may be made very cheaply from the refuse of strained honey. After all has drained out that will, cover with boiling water, or scald over the fire, stirring thoroughly. Let it stand a day or two, when it may be drained from the combs the same as honey, then boil and skim till clear. The strength may be tested with an egg, when the upper side rises an eighth of an inch above the surface it will do. It is put in some convenient vessel and allowed to work, when it may be closed up and set away to grow better with age. For vinegar, add about three parts of water to one of the above, and then manage as with cider, or other material used for the same purpose.

Combs that have been soaked in water, will soon spoil with mold. They should be immediately made into wax. These, together with old pieces of dry combs, when in small quantities, may be put into a sack of loose texture, with a small stone to make it sink, and kept in a kettle of boiling water, frequently pushing it about till the wax ceases to rise. It is skimmed off, remelted, and cooled in any desirable shape. For large quantities, the process is facilitated by having a large kettle and an apparatus for squeezing it, using two or three sacks; one is filled and put in the water and the wax melts while another is being squeezed out. Particles of wax in the refuse when exposed to the air, and slightly pressed in the hand, indicate whether it is worked out sufficiently clean or not.

The surplus honey for market is usually forwarded this month and next. If in small glass boxes, it should be packed in cases holding what may be easily handled—fifty or a hundred pounds. It should be secured by close packing from sliding about in the case. And when shipped, *secure careful handling*, otherwise the combs will be broken and the value materially lessened. It requires more care than a package of eggs.

New American Cyclopædia—Vol. XIII.

The thirteenth volume of this magnificent work is now issued. This volume contains 807 pages, and extends down the alphabet from PARR, to REDW. We also find 1550 different topics discussed, which allows an average of over half a page to each subject. The size of the volume is 10 inches long, 6½ inches wide, and 2½ inches thick. We mention these items, to give a better idea of the magnitude of the work when complete in 16 volumes. It will then require over a yard of shelf-room. Allowing 1500 articles to the volume, which is rather below the average, the Cyclopædia will give pretty full information upon 24,000 different topics, all arranged in alphabetical order, and the average space to each being equivalent to about three-fourths of a column of the *Agriculturist*. The more important topics have, of course, a proportionate share of space; thus, in the volume before us, the Pigeon occupies 9 columns; Pottery and Porcelain, 17 columns; Preserving Wood, 3¼ columns; Philadelphia, 15 columns; Pine Apple 1½ columns, and so on, each article giving about all that most people would desire to learn on the several topics. Other articles have ¼ to ½ columns each, as Pastel, Patmos, Patrick, Pawnee, Peddler, Penny, Peon, etc. From the above, our readers will be able to form some opinion of the extent and value of the work. See further notes under premium 11, page 315.

To Tile Machine Manufacturers.

We have very frequent inquiries respecting tile machines. There are many kinds of machines made in different parts of the country, and in order to become posted up in the matter, we request all persons who are manufacturing such machines, to send us their address, and such particulars, as may help us to a knowledge of their implements. We solicit similar information from others



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

No more Special Premiums.—Some persons are still applying for the Special Premiums, formerly offered by the Publisher for a specific time only. The standing premiums on page 315, are all we now offer, except the extra numbers offered on page 320. These are large enough, surely, and will well reward those who get up clubs. Take a look at them.

The Premium Strawberry Plants were all sent off at the earliest moment practicable. A number of persons sent orders to us that should have gone to regular dealers. Though not in our line, we have tried to accommodate them as far as possible. We do not keep varieties for sale, and in some cases the orders were slightly varied, necessarily, by those who filled them for us. We trust all have received the plants in good order.

Plants by Mail.—We commenced putting up our strawberry plants in tin boxes, but by a new rule of the Post Office Department, the boxes were excluded. No plants can go at the lower postage rates, unless open at one end, so as to be inspected. They can be nearly inclosed in oiled silk or muslin, and we have as yet heard of no failure among the hundreds of parcels, we have forwarded thus put up.

The N. Y. State Agricultural Fair, unfortunately for us, is just opening as we go to press. By telegraph we hear that it promises to be much more successful than the state of the country and the occurrence of a storm on the first day, would promise.

Fall Exhibition of the Brooklyn Horticultural Society.—The Annual Fall Exhibition of the Brooklyn Horticultural Society is in progress as we go to press. (Sept. 19.) The display is in some respects the finest ever seen in Brooklyn, if not in this country, particularly in Green and Hot-house plants. Those having ornamental foliage are in fashion among amateurs, and beautiful specimens are on exhibition. Parsons & Co., of Flushing, contribute a splendid collection of Marantas, Caladiums, Tradescantias, Begonias, Cissus, Ferns, etc. Excellent collections are also shown by Andrew Bridgman and Isaac Buchanan of New-York, and Louis Menand, of Albany. The latter gentleman exhibited two banana trees, one in full fruit; these and two specimens of the screw pine (*pandanus utilis*) attracted general attention. An India rubber tree, contributed by John Humphrey, of Brooklyn, is particularly noticed; also a magnificent *Alocasia Metallica*, with leaves like large ones of the richest bronze.

Fruits and flowers seem to have suffered considerably from the dry Summer, judging from the comparatively meagre display, which, though good in some respects, does not equal that of last year. Ellwanger & Barry, of Rochester, N. Y., show 135 varieties of pears, and 67 of apples. H. B. Shaw, of Newburgh, N. Y., shows a large variety of grapes, including splendid bunches of the Delaware, weighing 9 ounces each. A good collection of hot-house grapes was contributed by Mr. Cowan, Glen Cove, L. I. The most noticeable features among the flowers were a magnificent show of Dahlias, by C. S. Pell, of the New-York Orphan Asylum, and a large collection of Asters, from the French Nursery at Gloucester Landing, N. J. A Scotch thistle, grown from seeds taken from the grave of the poet Burns, by C. B. Miller, Secretary of the Society, attracted much attention. The exhibition is held in the Academy of Music, the largest public hall in Brooklyn, is thronged by visitors, and is generally considered the most successful one yet had.

The Fruit Growers Society of Western N. Y., will hold its next Meeting at the Court House in Rochester City, commencing Oct. 1st, at 11 A. M.

Cold Grapery Queries.—J. D. Lyman, Stafford Co., N. H. (1) It would hardly pay to have a cold grapery only 10 feet long. (2) The ends may be of the same material as the front and rear. Glass may be used, but is not necessary, if the roof fronts the south. (3) The glass cover will be needed at all times of the year, even in July, to regulate the temperature in our climate of sudden changes, where the temperature varies 30° or more in 24 hours. It is safer to lay grape vines down in very cold weather and cover with soil. (4) Peach trees protected by glass, and shaded from the hot sun, will seldom be injured in any temperature in New-Hampshire. A few evergreen branches, hung upon the tops of the peach trees to keep off the sun, will be an additional safeguard

in very cold localities. (5) Simply leaning sashes against a building would not be convenient. They need to be under good control (see 3 above). A good border, protected by the lower wall, is desirable.

Failure of Orchard Houses.—Growing fruits under glass in large quantities, is coming into very general use in England and on the Continent. This year there have been a considerable number of failures even in orchard houses. Mr. Parsons suggests that one cause of failure is the lack of bees in such houses to distribute the pollen. The absence of these is the more serious, as there are less breezes in these confined structures to blow the pollen from plant to plant. Mr. P. advises distributing the pollen with a camel hair brush, in the middle of a warm sunny day. Could not a bee-hive be kept in each orchard house, and thus obviate the tedious process of hand impregnation?

Hot-Beds for Drying Fruit.—“H. P. S.” of Morrisania, N. Y., writes that he makes a temporary floor in a hot-bed frame, on which the fruit to be dried is spread, and the sashes then laid on. When the sun is too warm, a little air is let in, but the sashes are kept closed at night. In this way the fruit is kept free from dust and insects, and dried in a few days. This is a good plan, and has been previously recommended in the *Agriculturist*.

Protecting Blackberry Canes.—A Subscriber at Concord, N. H., states that in that latitude, New Rochelle blackberries are winter-killed, two years out of three, and inquires how to protect them. Lay the canes down carefully in the Fall, before heavy frosts come, and cover them with an inch or two of earth. They are to be uncovered and staked up again as soon as danger from frost is past. Or the plan proposed, to remove them to a border near a fence, and set up corn stalks against them, would probably succeed.

Potting Strawberry Runners.—C. S. Pell, of the New York Orphan Asylum, has exhibited at the office of the *American Agriculturist*, strawberries grown in pots directly from the runners taking root there. He procures “thumb” pots of two to three inches in diameter, for 50c. to 75c. per 100, fills them with earth, and beds the runners one in each, at the point of starting a root. The plants are well rooted in two to three weeks, and they may be turned into the soil at any time in September or October, and yield a fair crop the next season.

Apples in Newspapers.—J. Thomas, New Garden, Md., writes that last Fall he treated his apples as follows. They were carefully picked and kept in a cool place until freezing weather commenced; then, after assorting, the sound ones were placed in boxes a foot deep, with a newspaper at the bottom, and between each layer of apples. Bellflowers packed in this way came out sound on the 1st of March. This requires considerable trouble, but may answer a good purpose for keeping a few apples of choice varieties.

Grape Layers.—H. A. Sheldon, Addison Co., Vt. Layers of grape vines put down this season, may be severed from the parent vine late in Autumn, after the growth and flow of sap is over, or at any time during the Winter before the sap starts in Spring. The transplanting of the layers should be deferred until Spring.

Cassabar or Persian Melon.—Specimens sent to us by Geo. A. Elston, Chester Co., Pa., proved quite equal to anything in the melon line that we have tried this season. They are shaped like the old fashioned muskmelon, one foot long and 5½ inches in diameter, rough skin, flesh thick, green color, very sweet and rich, No. 1 in every respect. We hope to have seeds to add to our free seed distribution next Winter.

Best Lawn Grass.—To many inquirers. We are at loss what to recommend. Most persons advise a mixture, and the seedsmen keep on sale lawn grass made up of several kinds, including white clover, which is liked by many. Our taste is to use only one kind of seed, so as to have an even, uniform grass plot. Last year we sowed the Italian Perennial Rye Grass very thickly. It came up quickly, and in five weeks we had a most beautiful lawn, which was frequently cut, and showed finely all Summer. But it killed off badly during the last severe Winter. We dug up the lawn in Spring, and sowed it thickly with Kentucky Blue Grass. It came up very slowly, and for a time we felt disappointed. But it looks very well now (Sept.), and we have no fear of its being winter killed. Our present first choice would be Kentucky Blue Grass, and we think we shall not miss this time, as this is certainly hardy. It may be sown at almost any season.

Protecting Trees from Rabbits.—“Henry,” Whitesides Co., Ind., writes to the *American Agriculturist* that a mixture of lard and sulphur applied to the trunks of young trees will prevent rabbits from gnawing

them. He says he obtained the directions from a nurseryman who paid ten dollars for the recipe, and who had found it a sure preventive.

Sowing Osage Orange Seed.—D. K. McClure, Dauphin Co., Pa. Seed may be put in boxes of earth this Fall, and be exposed to freezing during Winter. Drainage should be provided at the bottom of the boxes to let out the falling rain. In the Spring sow the contents of the boxes, soil and seed. Osage Orange Seed is now worth 75 cts. a quart in this city.

Stacking Beans.—J. T. W., Suffolk Co., N. Y., makes a “stack pole,” by boring two ¾ inch holes through a strong pole, and driving in pins for cross work. These pins extend about one foot from the pole, and a strong barrel hoop is nailed to the ends, making an open platform for the beans. The pole is set firmly in the ground, with the cross work 18 inches above the surface. The beans are then laid on in a circle, with the roots in the center against the pole, and elevated a little higher than the tops, so as to turn water. When sufficiently dry, the poles are lifted, and the beans laid upon the wagon for carting in.

Straw for Feed.—J. W. Sage, Huron Co., O., inquires whether it will pay to store straw in the barn after threshing, to be fed out in Winter. That depends upon the abundance and cheapness of hay, and upon the quality of the straw. Good Oat Straw, run through a cutter, and mixed with a little bran or shorts, will be almost as valuable as hay. Where hay is plenty, we should give it the preference, except for an occasional change. If straw is to be fed, it will undoubtedly pay to store it under cover, if there be room.

Immense Stock of Grain.—There was stored in Chicago at one time, last month, four and one-third million bushels of grain. Put this upon wagons in loads of 40 bushels each, and it would require 180,333 teams to draw it. Allow 44 feet to each team, and place them along the shortest railroad route to this City (908 miles), and the line of wagons would extend all the way from Chicago to New-York City. The above refers only to the amount of grain in Chicago at one time. The annual receipts there are many times larger.

Still Larger Grain Figures.—The Wheat, Flour, and Corn, exported to foreign countries, for the year ending Sept. 1, 1861, equalled 54,330,995 bushels of grain. This divided into loads of 40 bushels each, would require 1,358,025 wagons. Allowing 44 feet for each wagon and team, the line would extend 59,753,100 feet, or 11,317 miles; or nearly half way round the globe; or they would form more than three continuous lines of teams all the way from New-York to London.

How Much Wheat to the Acre?—The largest yield of wheat which has been communicated to us, is that raised by Samuel Charlsworth Esq., Winnebago Co., Wis., who harvested sixty-three bushels from a single acre. Has any one done better, and if so, how was it done?

Large Potatoes.—Bradford Deane, Boone Co., Ill., writes that he raised four potatoes weighing in the aggregate 22 lbs. The largest weighs 6 lbs., the smallest 5 lbs.

Scalding Onion Seed.—“W. O. K.” writes that a paragraph has been going the rounds of the papers to the effect that scalding water poured upon onion seed will cause it to germinate in a few minutes. He says he tried it, and lost all his first planting, not a seed coming up. It is often useful to soak seeds in tepid water immediately before planting, but few will bear to be scalded, except those enclosed in a tough, horny shell, like the locust, which require such treatment to liberate the germ.

Destroying Earth-Worms.—A subscriber writes that earth-worms, which are sometimes troublesome in pots of house-plants, may be destroyed by watering the soil with common ley of wood ashes; this application will also be a benefit to most plants.

What Next?—One of the latest novelties in the way of Magazines, is Mrs. Demorest's “Quarterly Mirror of Fashions.” On opening a number the other day, we found a considerable mass of thin, strong Vanilla paper, folded down to Magazine size, and fastened in. On referring the matter to the “Home Department,” the aforesaid paper was found to consist of three full size patterns for cutting the latest styles of ladies' dresses now in vogue to wit: the “Gored Dress,” “Gored Sleeve,” and “La dies' Zouave Jacket.” This sending of actual patterns instead of diminutive pictures of them, is certainly a novelty in the way of fashion Magazines.

Wheels on Plows.—David White, Bergen Co., N. J. The best way to secure a uniform depth in plowing is to use a wheel under the end of the beam. An unskillful plowman can make better work with this addition than a good hand without it.

Home-made Native Grape Wine.—J. L. Lockwood, Fairfield Co., Ct., presented us recently with a specimen of native wine, which is pronounced good by judges of the article. It was made thus: For a 22 gallon cask, 4 bushels of ripe wild grapes were taken, and after throwing out the decayed berries, all the good grapes were mashed and the juice pressed out through a coarse bag. This was put into the cask with 60 lbs. coffee sugar, and water enough added to fill up to within an inch of the bung. The plug was driven in tightly, but through it was introduced a bent or syphon tube, the inner end remaining above the wine, and the outer end dipping into a vessel of water which was always kept replenished as it dried away. This arrangement permitted the escape of gases, but excluded the entrance of air. The whole remained in this position until the last of April, when the clear wine was drawn off and bottled.

"Guinea Dwarf Pea."—T. J. Swan, Meade Co., Ky., sent us, June 25, a package of peas under the above name. They were planted immediately, and were ready for cooking in six weeks—rather earlier than the Daniel O'Rourke. They prove to be what is known here as the "Strawberry Pea," in France as the "De Grace," and in Germany as the "Buchsbaum," or box-tree pea, because they resemble in size and growth the box plant used for edgings or borders. Indeed, they are much used there as edgings for kitchen garden beds. There are several varieties, which differ but slightly from each other, all being very dwarf—not more than 6 to 8 inches high. They are convenient and pretty, but not adapted for a general crop, as the short vines bear too few pods, and the berry is small, and not equal in flavor to larger sorts.

Large Wheat Heads.—Charles Potts, Schuyler Co., Ill., sends to the office of the *American Agriculturist* two wheat heads, each $6\frac{1}{2}$ inches long, taken from his field. They were selected to compare with the samples of the Giant and Hallett's, illustrations of which have appeared in this journal. If pains were taken by wheat growers to select such heads for seed, year by year, greatly increased production would result. Read article on the subject on page 295.

Apples and Wheat from Minnesota.—A few days since we received a neatly packed box, per express from St. Paul, Minn., (all expenses paid,) which contained samples of apples and Spring Wheat, sent by Mr. Martin D. Clark. The apples are of the late Strawberry variety, from trees taken to Minnesota from Buffalo, in 1858. They are beautiful specimens, much larger than the same variety grown here, such as would do credit to any orchard. One of them measures $12\frac{1}{4}$ inches in circumference, and weighs 12 oz. Mr. Clark writes that he sent them to disprove the idea that apples can not be raised in that section. The Wheat is the Rio Grande variety, is of the best quality, and speaks well for the soil and the cultivation.

Cotton from Milk-Weed.—"Bridge water," suggests a trial of the silky fibers of the common milk-weed (*Asclepias cornuti*), as a substitute for cotton, or perhaps for silk. The seeds are attached to the stalk by a fine glossy substance, which, if it possess the requisite strength, may be worth experimenting with. It is a very hardy northern plant, prolific in seed-pods, and would doubtless be improved by culture.—The *if* will doubtless be in the way. Our impression is, that the fibers are entirely too fragile to serve any practical purpose.

The California "Soap Weed."—In answer to an inquiry in the September *Agriculturist* respecting this plant, Prof. George Thurber, of the Michigan State Agricultural College, writes: "The plant alluded to is doubtless the *Amole* of the Mexicans, and is known to botanists as *Chlorogalum pomeridianum*. A figure of the plant will be found in the 2d volume of the Report of the United States and Mexican Boundary, plate 60. The plant is a perennial; its bulb when bruised yields a mucilaginous juice which when mixed with water causes it to froth in the same manner that soap does. This, or an allied species, is much used as a detergent throughout Northern Mexico. Its medicinal qualities are probably not more marked than those of Slippery Elm bark or Sassafras pith. I am not aware that a chemical examination has been made of it, but it probably contains a principle analogous to saponine."

Three Specimens of Millet.—J. W. Grier, Adamsville.—No. 1 is panicked millet (see page 298). Nos. 2 and 3 are club millet, No. 2 being the Hungarian millet, or so-called "Hungarian grass."

Burning over a Meadow.—Almon J. Pierce Van Buren Co., Mich. Burning over a meadow after gathering the crops would be injurious to the following year's growth. Many of the roots would be killed by heat, and the remainder being left unprotected by destruction of the young growth above them, would suffer severely during the winter.

Open Ends of Drains.—"Iowa Subscriber." The lower end should be well open to admit air, but be secured with wire or iron rods to shut out mice and toads. The upper end should be closed to compel the air to ascend through the soil from the whole length of the drain.

Water through Cement Tiles.—Delos C. Ransom, Erie Co., O. As usually mixed, that is one part of hydraulic lime, and one to two parts of sand, the cement formed will not admit water through it. Indeed the walls of cisterns are made to hold water by plastering with such a composition. A company in Brooklyn are manufacturing tiles by a patent process in which pressure is used, and a smaller quantity of lime is required. These tiles allow considerable water to pass through their sides. This is not essential, however, for the joints of drain pipes admit water as fast as it can be carried off. See July *Agriculturist*, page 201, bottom of middle column.

Amount of Honey needed by Bees.—J. F. Lester, Ill., writes to the *American Agriculturist*, that fifteen swarms of bees kept in the cellar last winter: $2\frac{1}{2}$ months, each consumed on an average $6\frac{1}{2}$ lbs. of their stores. As this is about one third of the time bees consume stored honey in a northern latitude, it follows that not less than 20 lbs. will be needed to carry them safely through the winter.

Candy for Bees.—J. F. Lester, Ill., asks for a recipe for making candy from brown sugar, on which bees can be fed without waste. M. Quimby, gives the following directions: Add water enough to dissolve the sugar over a slow fire without burning. Take off the scum as it rises. To prevent its graining and becoming sugar again, add some acid. A teaspoonful of cream of tartar will be sufficient for 20 lbs. Evaporate the water by boiling slowly till it is brittle on cooling. Lay white paper on the bottom of some shallow dishes, and pour it on, making it into thin cakes, and it is readily broken into suitable pieces for use. Bees can not be sustained on this alone, they must have some honey in connection with it. They have starved with a full supply in reach, even when water was given to assist in dissolving it. It may be valuable when given before the honey is exhausted. Those who have tried feeding sugar in the form of syrup, about the consistence of honey, speak of it very highly. It is preferred to candy, where both have been tried, yet it is more trouble.

Oil Cake for Bees.—T. S. Wilson writes to the *American Agriculturist*, that oil cake mixed with water, to form a thick paste is excellent food for bees, of which they are very fond. This does not seem natural.

Twenty Bushels of Army Worms.—Mr. Ransom, of Erie Co., O., whose letter of August 9, came to hand too late for notice last month, reported the ravages of the army worm as quite severe in that and adjoining counties. One 48-acre plot of oats was entirely spoiled. Plowing furrows across the field to catch the worms, and burning straw in them was resorted to. He says one of his neighbors estimated that he had in this way killed at least twenty bushels of worms.

Scrubbing Pigs.—Charles F. Raymond, Fairfield Co., Conn., writes that a gentleman with whom he worked, bought two very unpromising pigs of the common breed, which he scrubbed regularly every day for a month, and afterward occasionally used a currycomb and brush. They were fed with sour milk and corn, and when dressed at the age of nine months, one weighed 306 lbs., the other 296 lbs. The cleansing of the skin undoubtedly favored their growth.

Convenient Pig Trough.—A Subscriber sends us the model of a pig trough by which the animals are prevented from "putting their feet in it," and from crowding each other. It is a common trough with the addition of slats upon the top wide enough to separate the pigs while feeding, and having an inclined board lengthwise, along the top, to keep them from jumping over to the wrong side. The feed is poured in through a small hopper fitted into the back side of the trough.

Relative Size of Animals and Plants.—Dr. Dick estimates the largest whale to be 34,560,000,000,000,000 times as large as the smallest known animalcule. The largest tree of Guiana he estimates to be 2,985,984,000,000,000 times as large as the rose-leaf plant.

Rats and Mice may often be caught by baiting the trap with flax, cotton, wool, etc., which they will try to secure for making their nests.

Destroying Muskrats.—Ephraim Montague Hampshire Co., Mass. These animals may be destroyed by feeding them slices of sweet apple sprinkled with a little strychnine. When thus poisoned their skins should not be used, and the carcasses be kept away from hogs.

Fish Culture.—Several subscribers ask for practical information on this subject from those who have experimented successfully. Who will furnish the facts?

Preserving Eggs.—S. V. V., and other recent inquirers, will find a chapter on eggs in the *August Agriculturist*, page 246. A new plan is proposed on page 209.

Dissolving Bones.—D. W. Bliven, New-London Co., Ct., writes that last March he dissolved 500 lbs. of bones in 100 lbs. of Soda Ash in water, adding 50 lbs. of unslacked lime, and it has done well as a manure. He asks if the preparation is as valuable as if sulphuric acid were used. This depends much upon the character of the soil, we suppose, and can be best decided by trial. On cold, sour land, the alkaline preparation would probably be preferable; while on other soils the acid solution would be likely to be most effective.

Cultivated Land in Ireland.—Ireland contains very nearly twenty one million acres. Twenty years ago thirteen and a half million acres were returned as "arable land," that is land cultivated with the plow, leaving seven and a half million acres as waste land, or only adapted to pasturage. By draining, partly by private enterprise and partly by the aid of Government loans, the arable surface is now increased to nearly sixteen million acres—a gain of about twenty per cent in the amount of tillable land.

"Information Wanted" from Practical Men—\$240 offered in Cash Prizes.

Winter Wheat—Rye—Fattening Hogs, etc.—Winter Feeding of Stock—Spring Wheat—Oats—Corn—Apples—Peaches—Blackberries and Raspberries—Family Vegetable Garden—Flower Garden.

TIME EXTENDED.

Under the above head we last August called for a series of essays, or details of experience and observation, from practical men, and offered the following Prizes or Premiums for the most valuable one in each class.

- 1—*Culture of Winter Wheat*, \$25—Not to exceed 20 pages of manuscript, and to be sent in, on or before Sept. 1. (Time extended to Nov. 30.)*
- 2—*Culture of Rye*, \$15—Not to exceed 15 pages—Sept. 1. (Time extended to Nov. 30.)
- 3—*Rearing and Fattening of Swine*, \$15—Not over 15 pages—Sept. 1. (Time extended to Nov. 30.)
- 4—*Winter Feeding and Care of Stock*, \$20—Not over 20 pages—Oct. 1st. (Time extended to Nov. 1.)
- 5—*Culture of Spring Wheat*, \$20—Not over 15 pages—Nov. 25.
- 6—*Culture of Oats*, \$15—not over 10 pages—Dec. 2.
- 7—*Culture of Indian Corn*, \$25—Not over 20 pages—Dec. 2.
- 8—*Growing Apples*, \$20—Not over 20 pages—Dec. 2.
- 9—*Peaches*, \$15—Not over 12 pages—Dec. 2.
- 10—*Blackberries and Raspberries*, \$20—Not over 15 pages for both—Dec. 2.
- 11—*Family Vegetable Garden*, \$25—Not over 25 pages—Dec. 2.
- 12—*Flower Garden*, \$25—Not over 20 pages—Dec. 2.

EXTENSION OF TIME.

Many who desired to write for the prizes, complained that the time allowed for the first of them was too short after they received the *August Agriculturist*, to allow them to prepare the essays before Sept. 1st, and only a few wrote, and then in a hurried manner. Our aim was to get these contributions in early enough to be of use this season. But owing to the brief time allowed, and to the war excitement, the efforts so far made, have not been up to what we wish to call out. We have therefore extended the time of the first four premiums, as noted above. (Those who have already sent in their articles, can withdraw them, if they desire, and send in again before the expiration of the extended time.)

FOR FULL PARTICULARS AND SPECIFICATIONS in regard to the prizes, character of the essays, etc., see the *August Agriculturist*, copies of which can be had on application by those intending to compete. Let no one hesitate to offer his contribution, because he is unaccustomed to use the pen. The one who gives the most practical information, in the plainest language, will be the one to receive the prize in each case.

* CHANGE OF WHEAT PREMIUM.—In accordance with numerous suggestions, we will make the following change in the Wheat prize: Instead of \$25 for a single essay, we will offer two prizes of \$15 each, viz., one of \$15 for the best essay on growing wheat in the New-England and Middle States; and one of \$15 for the best directions for cultivating wheat in the Western States, particularly on the prairies. The specifications for each will be the same as first given for No. 1, in the *August Agriculturist*.

Prospects of Farmers—Immense Sales of Flour, Wheat, and Corn.

Scarcely had our September issue reached its readers, before a temporary downward turn occurred in the prices of breadstuffs. This was to be expected, in the natural course of trade and speculation; but a subscriber seized upon the occasion to send us a sharp lecture upon the hopeful prospects, we held forth last month. He complained that we had induced him to hold on to his flour, and "now it was getting lower every day." The only answer we have, is, to point him to the present "prices current," given on page 316. And, by the way, every reader will be interested in our Market Review this month. In some respects it is the most important one we have ever published in the *American Agriculturist*. The tables giving a summary of the transactions in breadstuffs, both for a month past, and for the grain year ending Sept. 1st, are of the highest moment.

The sales in this market alone have reached the unprecedented figures of 5,473,125 bushels during the past 27 business days. The sales of flour have been 533,812 barrels, equivalent to over 2,500,000 bushels of wheat—the total sales of wheat and flour being equivalent to about **8,000,000 bushels of wheat**. And a very large portion of this has been sold for export to other countries.—Do we need any better evidence of the correctness of the predictions of the *American Agriculturist* for months past, that foreign harvests would turn out greatly deficient this year? We say again, that there is, and is to be for some time to come, a heavy demand upon our markets to supply the deficiency in breadstuffs in Great Britain, and especially in France, and to some extent in other parts of Western Europe. This statement is founded not only upon the condition of the weather, at the time of the last Autumn sowing, and afterward, but also upon our full information, private and otherwise, derived from various foreign sources. Were we now importing foreign manufactures as freely as usual, the demand upon us for breadstuffs would be almost unlimited, and at high rates. As it is, all the surplus we can well spare at anything like the present prices, will be called for abroad, even if to be paid for entirely in gold.

We have also prepared for the *American Agriculturist* a summary of the exports for seven years past. (See page 316.) Those tables show that during seven years we have exported **62,816,478 bushels of Wheat**; **9,132,593 barrels of Flour** (equivalent to, say 45,662,965 bushels of wheat), and **37,100,254 bushels of Corn**. But of this there has been exported for the grain year just closed, **29,005,866 bushels of wheat**, which, with the 2,703,790 barrels of flour, is equivalent to *forty-two and a half million (42,524,616) bushels of wheat*, at the usual estimate of five bushels of wheat for one barrel of flour. It will be seen that during the past year we have exported **29,005,866 bushels of wheat**, against only **33,810,612 during the whole of the six preceding years!** The exports of corn for the past year amounted to 11,806,179 bushels, against 25,294,075 for the six years previous.

Reckoning the flour as wheat, our exports of Wheat and Corn, for the past year, have reached over fifty million (**54,330,995 bushels**)! And our Western granaries are by no means exhausted. The arrivals in this city since our last report (27 business days), have been 479,800 barrels of Flour, 3,401,000 bushels of Wheat,

3,605,000 bushels of Corn, 398,969 bushels of Oats, 45,159 bushels of Rye, and 65,925 bushels of Barley—equivalent to very nearly (10,000,000) ten million bushels of grain! The amount brought forward has only been limited by the capacity of the canals and railroads. Much larger receipts would have found ready buyers.

It seems very evident that Providence has kindly prepared our country for its present trials, so far as its material interests are concerned. Never before was there an equal surplus of breadstuffs; never before a greater foreign demand; never before so much solid gold currency on hand and available for moving the crops; and all these circumstances have come together. Our grain would be next to valueless, were not the surplus wanted abroad, while that demand would not avail us, had we not the surplus capital to move the grain. It is a long road that has no turn. For four years past the farming interest has been much depressed, by poor crops and by financial difficulties. It would now seem that the upward turn is at hand. The vast addition made to the currency of the country, in the issue of so many millions of Treasury Notes, can not do otherwise than make money plenty, and this will gradually, if not at once, increase the money value of all kinds of farm produce. Let the cultivators of the soil then take courage, and go to their labors with higher hopes and renewed zeal.

Treatment of Diseased Animals.

MR. EDITOR: I have noticed that the *American Agriculturist* contains very few recipes for the cure of diseased animals, and some of my neighbors think the paper is lacking on that account. One of them takes a journal that gives almost a column every week, telling how to cure every thing from a flea bite to a fistula, and he thinks these a great acquisition. In reading them I am reminded of the sweepings of an apothecaries' shop, for they often contain the oddest and most nonsensical compounds imaginable; acids and alkalies, astringents and cathartics, are mixed up at a rate that would puzzle nature to know how to act on an animal that should swallow a dose of them. I tell my neighbors your journal is guided by common sense, which is worth any amount of uncommon nonsense.

Many people have a notion that when an animal is sick, something must be done; they are not satisfied until a pint of soap, or ashes and vinegar, or some other vile compound has been forced down the throat of the patient. I have no doubt that a regularly educated veterinary surgeon can often prescribe good remedies, but I don't believe it safe for every body to dose animals according to their fancy, or according to recipes picked up from nobody knows where, and published in newspapers. If I have a sick cow, and can get no reliable medical man to prescribe, I generally let Nature have her own way, and I believe that is the best way in nine cases out of ten. It is the vital powers of an animal that must throw off disease. It takes long practice to know from the looks of a creature just what medicine will touch the right spot, and help nature's wheels to work.

In most cases I find that something else besides the animals need doctoring. For the hog cholera, for example, I should prescribe frequent doses of the manure fork and cold water in the pig-pen, with perhaps a surgical operation on the sides to let in light and air. Foot rot in sheep is best treated by digging trenches in

the pasture, and putting in drain-tiles. A few "plasters" of clapboards on the old stable will cure a good many diseases in horses; and an operation with the hay cutter, the root slicer, and the steaming apparatus, will do more for the health of stock in Winter than all the balls and boluses ever dreamed of. In short I believe in curing disease by meeting it with proper remedies before it gets into animals. JONATHAN.

REMARKS.—"Jonathan" is about right. We could publish from our own contribution drawers, any quantity of "recipes" for curing every real or imaginary disease of human or other animals. But it would be worse than nonsense to do so; it would be holding up a false light to guide people astray. There are a few epidemical diseases which require a general treatment, and rules for such treatment may well be published; but for nineteen-twentieths of the ailments of man or beast, the best possible medicine is a very large, long continued dose of nothing at all. If a man, or horse, or cow, is troubled with irritation of the bowels, the best general treatment is to abstain from all food for a longer or shorter time, and let nature have a chance to exert her healing or recuperating powers.

About Improving our Animals

Last month we recorded the fact that Mr. Taylor paid \$1300 for a single sheep—a two-year-old South Down ram. The expense and risk of getting him from England to the New-Jersey farm will probably run the total cost above fifteen hundred dollars! Mr. S., a neighbor of Mr. Taylor, has a sheep that will yield more mutton and perhaps more good wool, for which he would be right glad to receive fifteen dollars.—Mr. Thorne recently sold from his large herd of improved cattle, a Bull to go back over the ocean, the price paid here being two thousand dollars! A neighbor of Mr. Thorne, Mr. R., has an animal that out measures and cut weighs Mr. Thorne's bull, and which will do more work, and yield more beef, yet the owner would be very glad to take \$200 for him. Similar illustrations might be given in reference to horses, swine, and other animals.

Every man who breeds an animal for his own use or for market, is concerned in the question: Why this difference in the value of animals that for present practical uses are apparently very nearly on a par. Let it be distinctly understood that the high money values set upon these animals are not the mere results of whims or caprices. Mr. Thorne and Mr. Taylor, and others of their class, are men of too much good sense to throw away their money to gratify a whimsical fancy—they are very far from belonging to the order of "fast men." Here is the secret: The bull owned by Mr. R., if used for breeding, would be quite as likely to produce a progeny inferior to himself, as one inheriting his own good qualities. He is a *grade*, or mixed blood, and the inferior blood of his immediate ancestors will be likely to crop-out in his descendants. On the contrary, Mr. Thorne's animal is a pure blooded, pedigree animal; that is, he has come in a direct known line of descent from a long succession of good animals, and the race or family to which he belongs has acquired the power of transmitting their good qualities. Others are anxious to get at least an infusion of this blood among their stock, and are willing to pay well for it; hence the value of the family. The same thing holds true of Mr. Taylor's sheep. These animals are faultless in form and other

good qualities, and the power they have acquired of transmitting their qualities, is of the very highest value to breeders.

The lesson to be learned from these illustration is, that by careful selection of good animals for breeding, every owner of stock may improve the quality of his animals. A man begins this year and breeds together two or more pairs of the best he can find among his own stock—perhaps gets one of the pair from the best among his neighbors. From the progeny he selects the best again, and so on; and in the course of fifteen or twenty years he has five or six generations of pedigree cattle. The continuance of this careful selection will, in time, establish a family of thorough bred animals, of infinitely greater value for breeding purposes than the mixed races which contain many strains of poor blood. Every man can not hope to become a Bates or a Webb, but all can improve their stock from year to year, and at a cost that will pay. Here is an extract from the Oxford Journal (Eng.), which illustrates our subject well, and which gives an interesting history of the origin of the Duchess family of Short Horn (Durham) Cattle, to which Mr. Thorne's high-bred bull belongs:

"More than half a century ago, when Charles Colling's herd was sold, a young heifer, named Duchess, was bought by Mr. Thomas Bates, of Kirk-leavington. From her has descended a tribe of Short Horns known as Duchesses, which are believed to possess all the leading merits of the breed in an extraordinary degree. In particular, they are possessed of a remarkably soft and silken touch—of abundant hair and other indications of vigor—of most symmetrical form—great and equal width of back, well arched ribs, and prominence and width of bosom. Several of this tribe were exhibited at the Royal Agricultural Society's Show at Leeds this year, and they were almost uniformly successful. Duchess 77, a three-year-old cow, which has carried off the first prize in her class whenever she has been shown, was first this year in the most remarkable class of cows that has probably been ever got together. Duchesses 78 and 79 (twins)—the one a roan and the other a white yearling heifer at the Canterbury Show last year—and then placed first and second in their class—were here shown in a very first-rate and numerous class of young cows, and they again occupied the head of the list. And it is not only in the pure bred Duchesses that this extraordinary merit appears, but wherever a cross of the same blood has been given, it appears to have unusual influence, and most of the prize-taking and commended animals owe their successful position at Leeds to influence of this kind. This is one of the results of what is called in-and-in-breeding. Animals which have inherited again and again in the course of their pedigree the qualities which relationship in blood has conferred in common, possess those qualities much more energetically than others do in whom they are observed for the first time.

A cross-bred ram may have a very desirable coat upon his back, and a very well-made carcase of mutton within that coat, but it is exactly a toss up whether his progeny acquire the character of his sire or that of his dam. If sire and dam for generations back have exhibited constancy and uniformity of character, then that character is certain to re-appear in their offspring, which in his or her turn will possess still greater power of transmitting good tendencies to the following generation. It is thus that not only in the Duchess blood, but in other tribes descended from the Kirkleavington herd, we have as the result of Mr. Bates' resolution, patience, skill, and constancy, qualities which re-appear in generation after generation until an animal may now be safely characterised as good if known to be of Bates' blood. Bates' blood, or rather Bates' brains—for it is mental, and, in many important particulars, the moral character of the breeder which is reflected now in so many different herds—is merely another word for patient persistence in breeding

from animals of a given type, in great measure disregarding the question of relationship, if they possessed the requisite health and vigor of constitution. Of course, when evils of any kind are inherited, as a tendency to disease or weakness of any kind, breeding in-and-in will intensify and hand that down with as much certainty as any other quality—but the natural law of breeding, which obtains among gregarious animals where the strongest sire is the father of the herd or flock—to the almost entire disregard of previous natural relationship—is a safe one to follow. It is a natural law of this kind that gives to particular herds and flocks where they have been long under the control of one man, their uniformity of character from year to year. The thing is as true in flocks of sheep as it is in herds of cattle; and Mr. Jonas Webb's flock of South Downs, which has just been scattered by the auctioneer to all lands, will no doubt perpetuate and extend the influence of Mr. Jonas Webb's skill and character just as widely as those of Thomas Bates are felt on both sides of the Atlantic at the present day."

Improving Plants of All Kinds—Important Suggestions.

A discovery recently brought before the British public, but scarcely heard of on this side of the Atlantic, as yet, would seem to be of the highest importance to every cultivator of the soil—of a garden plot even. And as the experiments we propose can be made by every one, we ask the attention of all to the subject. In the preceding article we have given an outline of what has been done and may be done in the improvement of animals. The course pursued with animals, it is proposed to apply to the improvement of plants of all kinds grown from seed.

To illustrate, let us look at the origin of our different varieties of peas, taking the Champion of England for example. Less than a dozen years ago, a single pod of remarkably good peas was found in a plot. The cultivator saved this pod and sowed the peas it contained. The result was a small crop of peas resembling the original in general character and quality. The whole of the second crop was sown, and a third crop resembling the original was obtained. The process was continued, the whole crop being sown each year, and now the Champion of England pea is grown almost all over the world. But the general character of this variety is much the same as that of the second crop—probably inferior on the whole. There has been no special improvement made.

Now suppose that from the second crop the cultivator had, after careful examination, selected the very best single pod that could be found, and planted this alone. Would not the third crop have been better on the whole, than that obtained from sowing all of the second crop, good, bad, and indifferent? Suppose again, that from the third crop produced by the single pod selected from the second crop, the best single pod had been selected and sown, would not a still further improvement have been made?

The reader will note, that the proposed process is entirely different from the usual one adopted in producing or multiplying new varieties. In the latter case the whole product, or nearly the whole of the previous crop, is used in propagating and multiplying the variety. In the new process, it is proposed to select each year only a single head, pod, or seed—the best among the whole—to be used for propagation. The idea is, that not only will there be a decided improvement each year, but that this repeated annual selection will establish a pedigree, or breed, that shall be as valuable in plants, as it is now in animals.

Reason, and the laws of production would seem to be strongly in favor of this result. The Duchess family of Short Horns have acquired the power of transmitting almost unfailingly the good qualities they have inherited. May not this power be similarly acquired by plants of all kinds, and that in a brief time. Three or four years are required for each generation of cattle, but in our field and garden crops propagated annually from seed, only a single year is required for a generation.

We propose to our readers that each one experiment in accordance with the above suggestions—in Spring upon field and garden crops, and in Autumn upon Winter grains. But little trouble will be required, while important results may be obtained. And, to illustrate what may be done, we will give an example of what has already been accomplished by Mr. B. F. Hallett, who is creating some sensation in England by his successful experiments upon wheat. Though we sent for some of his pedigree wheat, and gave it out to our subscribers, (see June *Agriculturist*, page 188,) yet, as we stated, we had some misgivings about the claims put forth for it. But in the Gardeners' Chronicle for August 24, the editor, the scientific Prof. Lindley, tells us he has seen Mr. Hallett's wheat in the field, and endorses the almost incredible statements put forth. The pith of the matter is this:

Some years ago Mr. Hallett selected the two largest heads he could find in a field of a valued variety of wheat called the "Red Nursery." The two together contained 87 kernels. (One of these heads is the smallest one shown in our June number). The 87 kernels were planted 6 inches apart each way. One of them produced 10 stalks, the heads yielding 688 kernels. The largest ten other heads from the whole of the remaining 86 kernels sown, produced only 596 kernels. The whole was planted separately, each kernel being numbered in the plot, and one grain from the largest of the first ten heads now yielded 17 heads (besides 5 green ones), which contained 1190 kernels. These 17 ears were planted and one kernel from the largest head among them yielded 39 heads containing 2145 kernels. We omit the details of the experiments with the produce from the other products of the original grain. It is sufficient for our illustration to show the increase from the original size and number of stalks. The first year the best kernel sown yielded 10 ears containing 688 kernels; the fourth year the best kernel yielded 39 heads containing 2145 kernels! One of these last heads was shown in our June number. A multitude of other experiments, carried on at the same time, showed a similar result from the successive repeated selection of the largest head from the most productive root or stalk, for propagation.

Cotton Growing in the Colder States.

We have recently had an interview with Capt. Richard Kendall, who was formerly connected with the United States Coast Survey, in reference to the feasibility of introducing into the Middle and Northern States, a cotton producing tree which grows in similar latitudes in South America. Capt. K., is quite enthusiastic in the opinion that the tree will flourish wherever corn will grow, and that it may become a source of great profit. He exhibits specimens of the tree and of the cotton, produced by him in Baltimore County, Maryland. The section of the tree we examined is a hard wood, two inches in

diameter, having five annual rings. The cotton fiber is long, fine, and silky, resembling and apparently equaling the best Sea Island Cotton.

Of the tree in its native habitat, in various portions of the Western Coast of South Africa, from the Equator to the Northern part of Patagonia, Capt. Kendall says it flourishes best in Southern Chili, in about 40° South latitude. He found it growing at an elevation of 7000 feet above the ocean, almost in the regions of perpetual snow. The tree resembles the white mulberry in general appearance of the branches, bark, and leaves, the average size and height being about that of our common peach trees. It begins to produce bolls the third year from seed, and continues healthy and vigorous—according to the accounts of the natives—from thirty to fifty years. It attains its full size about the eighth year. It is propagated by seed and by cuttings. Near the tropics it is evergreen, and begins to produce seed the first year after sowing, but there it is only a shrub, growing five or six feet in height. The tree is very ornamental, especially when covered with a profuse mass of flowers that resemble the double hollyhock, though less in size.

Capt. Kendall is now stopping in this City and would be happy to communicate with any of our leading agriculturists, or nurserymen, in regard to the feasibility of making some effort to introduce the plant into the country.

How to Winter Cabbages.

To the Editor of the American Agriculturist.

The following method for keeping cabbages through the Winter, I have followed for twenty years, and find it to be the best I have seen. First dig a hole six inches deep, and large enough to contain about thirty cabbages piled in a conical heap. In the bottom of this pit lay dry hay or straw to the depth of three inches, when packed down. Cut off the stems of the cabbages to within three or four inches of the heads, remove only the decaying leaves, and pile them with the heads downward. Cover them with a good layer of dry hay or straw, and then with five or six inches of earth. Make the heap sharp at the top, and smooth the sides with a shovel. Lay a sod on the top of the heap to shed off rain. When opened in Winter to take out cabbages, stop the hole tightly with hay.

Allegany Co., Pa.

SAMUEL POLLOCK.

REMARKS.—We question whether it would be safe, generally, to place cabbage heads together in a mass as above recommended. They are liable to heat, and one head or its leaves decaying, would communicate decay to the rest. We have found no simpler method than the following: Lay down poles or rails in pairs, on high dry ground, or on a ridge sufficiently raised to avoid water. Set a row of cabbages near together along each pair of rails, the heads downward. Spread a little straw over the heads, not under them, and put on a covering of earth pointed up well to shed off rain. The roots need not be covered. A little freezing of the cabbages does not hurt them when there is a sufficient coat of earth to "draw out the frost" gradually. Several of these rows may be placed side by side. The earth taken up for covering will leave open ditches between the rows, and by making outlets from these the soil is kept drained. In Winter, pieces of the bank of frozen earth, with a cabbage in each, may be cut off with an old ax, and carried into the cellar. The earth will gradually thaw off, leaving the cabbage heads in good condition for use.

For those wanted in early winter, a simple

method is to sink a barrel in the soil and fill it with heads cut off from the stems, loosely thrown in. Cover the barrel with boards and a little soil, which can be lifted off and the heads taken out as needed. The cooler cabbages can be kept the better. A house cellar is too warm.

Another good plan is the following, where mice are not abundant, or can be kept out. Choose a dry plot of ground, square, or oblong, as large as wanted; dig a trench on one side, and plant a row of cabbages into it, covering the roots and stems nearly up to the heads. Then set out another row by the side of the first, and so on until all are put in. Build a bank of earth all around the plot, and lay poles or rails just above the heads, covering the whole with straw a foot or more deep. Put two poles on eroded stakes on two opposite sides, one pole higher than the other, and lay on boards for a rough temporary roof to shed off the falling rain and snow. The cabbages will not only keep well, but will even grow all Winter. The boards and straw can be removed at any time to take out what cabbages are needed. Except in the coldest weather, holes should be opened on each side of the pit to admit a circulation of air. The ventilating holes may be secured from mice by setting in them old wire sieves, and stopping them with straw when required to be closed in extreme cold weather. The bank of earth around the outside may be raised up to the board covering, so as to shut out the free entrance of mice.

Humbugs—A New Dodge.

Formerly we had frequent occasion to show up sundry plausible schemes to fileh money from the unsuspecting. Latterly we have had little to do in that line—partly because our exposures have thoroughly put people on their guard, partly because the "hard times" rendered it less easy for the swindlers to get money, and partly because the army has absorbed a considerable number of those who formerly lived by their wits. The organization of the regiment of "Billy Wilson's Zouaves," has cleared our own city of not a few of the "gentry" who are now usefully serving their country in the fortifications on Santa Rosa Island, near Pensacola. But within a few weeks there have been indications that swindlers are beginning their operations anew. Our readers will do well to be on the look out for chances to buy good land at the East for a song, to make a fortune in the culture of newly discovered plants, and to realize sudden wealth by a variety of other sure methods. We shall have an eye upon the craft.

To begin with, here is a pretty scheme, to which we respectfully call the attention of the authorities of New-Hampshire. On Sept. 7th, a respectable citizen of New-Jersey (for whose real name we will substitute John Smith), received a letter from New-Hampshire, enclosing a ticket in a scheme, not called a lottery, and stating that hearing accidentally that he was a reliable man they took the liberty of presenting a ticket for their next drawing, stipulating that if he drew a prize he would make it known, thus advertising their business. Sept. 14th he received a printed slip, purporting to be the "Grand Social Banquet, by the Mechanics Union Club, at the Union House, Holderness, N. H., Drawn on Thursday, Sept. 12th, 1861, under the management of Adams, Duncan & Co." Then follows a list of numbers, which are declared to have drawn prizes, such as: No. 1365 drew \$2000. No. 534 drew \$1500....No. 3070 drew \$300....

No. 842 drew \$10....No. 3769 drew \$100...and so on through some 250 numbers—with directions how to get the money—all in a very business like way. Now comes the gist of the matter. Along with the above announcement came the following letter, written in a fair business hand:

Holderness N. H., Sept. 12.

JOHN SMITH, Sir. I have just returned from the drawing; you will see that No. 3769 drew a prize of \$100. Now I will tell you how to obtain this prize if you will assist me in selling Tickets which you can do by letting people know that you have drawn a Prize and informing them whom to apply to for Tickets. By your doing this I shall sell a large number of Tickets for the next Banquet in your vicinity. In order to have your Ticket good, you must have a certificate from the Managers. To get this you must send me a letter dated Sept. 12, and enclose \$5 the price of the Ticket. As soon as Rec'd, I shall hand it to the managers saying this letter was miscarried but the money is all right. They will then send you a Certificate, after which you forward the ticket to them and receive the money by Ex. Send at once and don't show this letter to any one.

Yours Truly GEO. F. HAMILTON.

Well, Mr. Geo. F. Humbug, you mistook your man in this case, though we suppose you have got plenty of \$5 bills from these who do not read the *Agriculturist*. Your "reliable man" happens to be a subscriber to this journal, and having, as he writes, seen our exposures of such as you, he disobeys your injunctions "not to show your letter to any one," and "sends it at once," to be published for the benefit of those disposed to invest in your "next Banquet." A private word, Mr. Hamilton. Can't you send us a free ticket for the next banquet in return for this "first-rate notice?" If in these hard times you send us a prize of \$2000, or even \$100, we will tell a hundred thousand people all about it. If you insist upon the \$5 after presenting the ticket to us, why, you can just deduct it out of the prize money. Send by express. "Send at once."

Manure Cellars Under Barns.

In reply to "E," and several others, we say, that as frequently constructed, and advised, manure cellars under the barn or stalls, are an unmitigated nuisance. The vapors and odors rising, if allowed to ascend into the stalls above, and to spread through the hay and grain, are not only unhealthy to the animals, and injurious to the hay and grain, but they rot the timbers. But all this does not by any means condemn such cellars. We have one from which no such difficulties are experienced. The walls are laid in hydraulic mortar, and carried clear up to the floor, the boards over the walls and the timbers being imbedded in the mortar. The floor is double, the lower one of matched 1½ inch pine plank, over which 2-inch matched plank are laid, inclining from the mangers to a gutter at the rear of the stalls, and also from the rear wall to the same gutter. The trap-doors for letting down manure are also double, and fit closely. No vapors can get from the cellar to the stalls.

Further, on one side the wall is built out in the form of an L, or square, 7 feet each way; that is, a part of the cellar is outside of the barn, which not only affords free escape for the moist vapors, but also supplies a broad opening for throwing out the manure. Where the height of the barn or the elevation of the ground admits of it, it is well to let this outside opening incline gradually, so that a cart or wagon can be backed in to haul out the manure. Manure kept in such cellars is saved from the washing of rains, and is under control at all seasons. All the liquid droppings, litter, etc., are neatly and entirely saved from loss, and the better quality of the manure pays, which is the main thing.

Draining—Why—Where—How.

(Continued from pages 35, 70, 105, 137, 169, 231, 233, 264.)

SUNDRY HINTS.

DEPTH AND DISTANCE APART OF DRAINS.—

These two topics are usually discussed separately but are closely connected. The deeper the drain, the greater the distance that it will draw water from the soil upon either side, that is within reasonable limits. It may be so deep as to fail to drain the upper soil at all. In compact clay soils, 3 feet, or at most 3½ feet, is deep enough, though when filled up for a foot or two from the bottom with stones or loose soil, it amounts to a double drain, and may be made deeper. In heavy clay soils, drains will not be effective for more than 12 to 15 feet on either side, and they

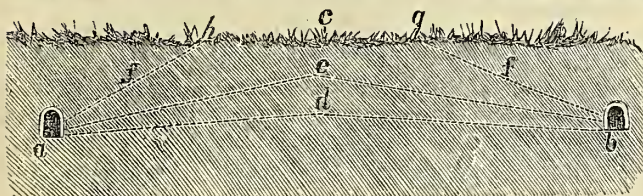


Fig. 34.

should therefore be placed only 25 to 30 feet apart. In more open, porous, or loamy land, water will work through the soil to a great distance, and drains may be placed further apart, generally not more than 3 to 3½ rods, if thorough effective draining be intended. Where the surface is quite sandy or gravelly, for a depth of three or four feet, but lies upon a clay bed below which holds water in excess in the surface, drains may be 4 or 5 rods apart. The water will readily find its way into them. The soil between any two drains may be considered as a ridge from which the water flows down an inclined plane each way into the adjacent drains. Thus, in fig. 34, drains *a* and *b*, are, say four rods apart.—1st. If the soil be porous, the water from all the soil above the lower dotted line, *d*, will be carried off.—2nd. If the soil be but moderately porous, only the water above the middle dotted line, *e*, will flow off readily, and under *e* there will be but imperfect drainage.—3d. If the soil be a compact clay, only the water above the upper dotted lines, *f, f*, will readily enter the drains, and there will be a wet spot left at *c*. In the first case, 4 rods apart will be near enough. In the second, the distance apart should be reduced to 3 rods; and in the third case the drains should be only about 2 rods apart.—By placing the drains, *a* and *b*, deeper, the upper lines will be lowered, but their length will be increased, requiring the water to flow further through the soil.

It must also be taken into account that the deeper the drains, the greater is the cost of digging, comparatively. It requires nearly twice the labor to dig three feet deep, that it does to dig two feet; and a drain four

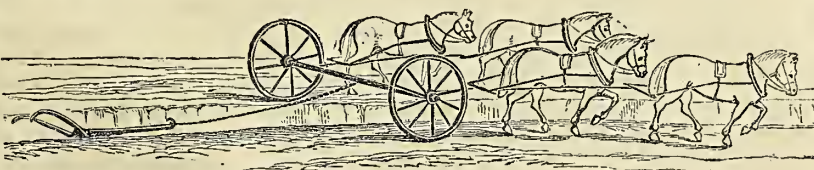


Fig. 36.

feet is nearly twice as costly as three feet. It will therefore often be better, on the score of economy alone, to dig shallower ditches, nearer together.

Taking into account all the above considerations, we think, as a general rule, that in compact clay soils, the top of the drains should be about 2½ to 3 feet deep, and 25 to 30 feet apart. In loams admitting water through them more freely, the drains may be 3 to 3½ feet deep, and

three rods apart. In still more porous surface soils, the drains may be four or more rods apart, and 3 to 4 feet deep. All drains should be placed below the possible reach of the common plow, or of the subsoil plow.

DIGGING DRAINS.

This has been mainly done with the spade so far. Several machines have been invented for this purpose, but we have seen none in operation which we are fully prepared to recommend for general use. There is here a good opportunity for ingenious inventors, and we know of no more promising field for the exercise of their skill. What is needed is a simple cheap implement that, when worked by oxen or horses, will excavate a drain three to four feet deep with rapidity and economy. We shall endeavor to keep our readers advised of any practical im-

provements in this direction. The cost of digging with a spade is not so great as many would suppose. The work may be done at odd spells, when laborers on the farm are not otherwise engaged. Cheap men, those who are skillful at few kinds of general work, can be employed to

dig drains at a low rate. A great saving will be effected, if the digging be let out by the piece. For example, we once hired a man at a dollar a day (boarding himself), and set him to digging a drain averaging 3½ feet deep, and as narrow as he found it convenient to work in, which was 20 inches at the top and 12 inches at the bottom. For some time he opened only 3 to 4 rods a day. We then dismissed him, but offered him a dollar for every five rods, or 20 cents a rod. He demurred at this and left, but not finding other



Fig. 35.

work he came back and dug 2,000 feet at the rate of 8½ rods a day, thus earning \$1.67 each day! He afterwards took another job at 16½ cents a rod, for 3½ feet in depth. The labor of digging can be much lessened, generally, by running a plow backward and forward several times. A good plow will throw out the soil to a depth of nearly a foot. Below this the soil can be loosened with a plow, and then thrown out with shovels. A single horse will walk in the drain, when three feet deep, and loosen a few inches at every passage of the plow. If the soil be very hard, two or more horses may be used in the ditch tandem—one before the other, (fig. 35)—and thus nearly all of the ground can be plowed. Or, a long double-tree, or even-

maining depth, 2 feet, was loosened with the plow, and thrown out with shovel. The whole cost of digging 4½ feet deep was not quite 20 cents a rod. The earth was returned in the same way—the lower 2 feet with shovels, and the upper two with the scraper. For ordinary draining, perhaps the digging can be done at present with the spade, by contract, quite as cheaply as in any other way, especially where there are plenty of unskilled laborers at hand. For convenience of filling, it is best to throw the good surface soil on one side, and the poorer subsoil on the other, to be returned in the same order.

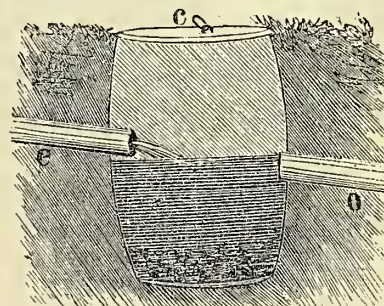


Fig. 37.

TRAPS AND OBSERVING HOLES.

In continuous drains of 400 feet or more in length, and especially if main drains, it is desirable to provide traps for catching clay and sand that may find their way into the drains. The trap may also answer for an "observing hole" to see how a drain is working at that point. It may also serve as a reservoir of water for animals, when needed for this purpose. A trap may be made in several ways. The simplest form is shown in fig. 37, where a hogshead is sunk in the soil. The water coming in through *e*, deposits its sand and clay at the bottom, while the clear water flows off at the right through *o*. By removing the cover *c*, the sand accumulated at the bottom can be taken out whenever needed. The amount and regularity of the flow of water at that point can also be observed, and the supply at the bottom can be used for drinking, or for watering animals.

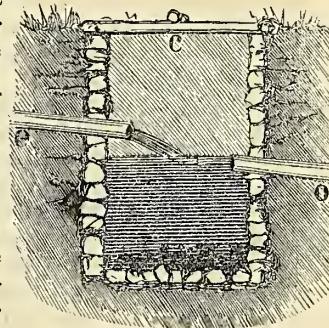


Fig. 38.

In permanent drains it is better to construct these traps of more durable material than wood. A small cistern of stone or brick work, (fig. 38,) two or three feet square, plastered inside with hydraulic mortar, answers all the ends desired. The cover may be of plank, or a flag stone may be laid on. If to be used for obtaining water, the cover should be movable, and perhaps hung on hinges. Where only required for catching sand, and to be examined only once or twice a year, the cover may be sunk a foot or two below the surface, and covered with soil, which can be shoveled off when necessary.

Such traps are sometimes made of cast iron, and only a few inches in diameter. These may answer when not too expensive, and where there is a considerable fall, and a good outlet to the drain. If it is desirable to render the water nearly pure as it passes through, the trap should be made 3 or 4 feet in diameter, and 2 or 3 feet in depth below the entrance and exit pipes.

er, may be adopted, and one horse or a pair of them, or a yoke of oxen, be driven along on each side of the ditch. Or, still again, a pair of wheels and axle may be used, (Fig. 36.) For wide, deep stone ditches, a considerable portion of the digging may be done with a plow and a common road scraper. We have seen 2½ feet deep thus removed rapidly and economically, the top being six feet or more wide. The re-

A few Fall "Chores."

Spring work is hardly more important than Fall work. The latter should be done in its appropriate season, and done well. Some jobs can not be deferred until Spring, and others can be done now better than then.

One item, for many farmers, is the draining of swamp or bottom lands. They are rich in peat, or marl, or muck, which, if rightly used with manure, almost doubles the value of pure stable dung. Now is a good time to drain those lands, while the low grounds are comparatively dry, and before the heavy Fall rains set in. Cut good broad ditches straight through them, leading into some natural outlet, where the water will have a free channel and a good fall. Cut the sides of each ditch sloping, so that the soft dirt will not crumble and cave in and obstruct the channel. In a short time, this drained land will bear up teams, and so allow the farmer to haul out many a load of fertilizing material for his hungry uplands. Or, if the hauling can not be done now, let the muck be thrown up in heaps to dry, so that it can easily be loaded up and drawn out in Winter. Let every unemployed team bring forth the rich deposits, and draw them into the barn yard for composting, or take them out to the hilly lands, where they can be exposed to the air and frost, and perhaps mixed with lime, and so be got ready for next year.

Another item relates to shelter for stock. We are no advocates for fancy architecture in the barn-yard. Our rich neighbor, who paints his commonest barns and cattle sheds a pure white, does it on his own responsibility. He seems to like to see his Short Horns and Berkshires rub their dirty hides against his snow-white lead. This is not to our taste. Yet we advocate comfort for cattle, from the most British grunter up to the noble horse. Keep them comfortable, both in Winter and Summer. Keep them growing, or at least improving their condition, so as to be always ready for market, ready for use, or at any rate, in such a condition that it will be a satisfaction to look at them.

To this end, let the farm buildings undergo a thorough examination this month, and let material be provided for repairing them. This leaky roof must be shingled, or at least patched. Those loose boards must be nailed on, or if old and rotten, new ones must supply their place. Yonder, the seams have opened too wide between the half-seasoned boards; they should be battened up. The floors in those stalls are beginning to give way; they are worn and half-rotten. Now, right off, before those oxen and valuable horses have broken through and sprained their legs, we must put in some new planks; may be, some new joists beneath to support them. And these sheds around the yard and that lean-to, need righting up. That wide opening at the northwest corner, between the long barn and the corn-house, should be boarded up; the wind and snow drive in there unmercifully during the Winter.

Along with this work, let there go a thorough cleaning up. The manure so apt to accumulate under the barn floor, must be got out and wheeled into the corner for composting. The heaps in the corners of the sheds, and around the barn doors, the drinking troughs, and gates, should be scraped up and deposited where they will not waste. This will make the buildings sweeter and pleasanter, and the yards will be cleaner to the feet all through the rainy months.

The stock need looking to before they are

taken into their permanent winter quarters. Not a few farmers keep them lying out too late, and on too short commons. Between this time and December, there will doubtless be much good pasturage, but after the frosts have become severe, grass is not very nutritious. It may be abundant, but after it has been several times frozen, it is little better than so much straw. Cattle often grow poor while standing knee-deep in such fodder. Probably, the cold rains, and sleeping on the cold ground, have something to do with their leanness.

Let it be repeated here, that stock should seldom be allowed to stand still in their condition; they should be kept growing if they are young, and improving if already grown. If under-fed or poorly fed, they recover but slowly—if at all. Let them have good food all through the Fall; give them shelter by night and in long storms, if they desire it. Bring them into their winter quarters strong and healthy. So shall it be well with thee, and with thy flocks and thy herds.

About Millet.

"Stray Millet"—A valuable variety from Wisconsin
—The Utility of Millet as a profitable Field Crop
—Millet a Substitute for Rice and other Grain as Human Food.

On the 16th of January last, "a subscriber," who did not give his name, sent us from Hudson, St. Croix Co., Wis., a sample of millet seed, which he said was known there only by the name of "stray millet." We sowed it May 8th in drills, on moderately good soil, naturally dry, and this year badly parched by the prevailing drouth. Aug. 8, just three months after the time of sowing, it ripened its seed, and we deem it worthy of special notice. The average height is about 3 feet, and the stalks nearly $\frac{1}{2}$ inch in diameter. The leaves are 12 to 18 inches long, and many of them are $1\frac{1}{2}$ inches broad. The heads are enormous, ranging from 8 to 13 inches in length, and measuring $2\frac{1}{2}$ to 3 inches in circumference. The yield of seed on an acre of such millet must be very large. We have received and tried many samples of millet seed from various parts of the country, but this exceeds them all. Will the unknown subscriber, who forwarded this, please send us his name, and inform us whether he can obtain a quantity of pure seed for us, to be placed in our free seed distribution for the coming Winter. Our own seed we shall sow next year, to multiply it for after distribution, as there is hardly enough to send out this year. We say "pure seed," for we notice some stray heads of a different and much smaller variety growing in our plot.

There is no doubt that several varieties of millet, and especially such a variety as the above, may be grown with great advantage by the farmers of this country. The seed is nutritious and valuable for feeding ground to stock, and unground to poultry. The yield per acre is larger than that of most other grains, while the stalks and leaves furnish a large amount of fodder. It does not require a strong soil, and the time of growth is so short that it is secure against the casualties of frost and drouth, and probably of insects. Several Western subscribers, especially among our German friends, who have sent specimens of millet, speak of this grain as a very good substitute for rice and other grain, as human food. Some assert that if rightly cooked, it is superior to rice.

The botanical name of millet is *Panicum*, of which there are many varieties. Several of these grow wild in this country, but the cultivated

kinds have been introduced from Europe. The leading varieties are the "Club Millet" (*Panicum Italicum* and *Germanicum*), and the "Panicled Millet" (*Panicum Miliaceum*); and sub-varieties of these are distinguished by the color of the seeds. Panicle millet has larger seeds, while the seeds of the Club variety do not fall out so readily when ripe. The "Stray Millet" is a Club variety, seeds white, and its long, heavy, curving heads, with the long broad leaves, render it quite ornamental in the garden, as well as useful in the field. The seeds are a good substitute for the bird seed of the seed stores.

Save the Corn Stalks.

An American farmer, traveling in Europe, is struck by nothing more than the carefulness with which everything is saved. Poor Richard must have got his proverb about the "penny saved," from across the sea. There, all corn stalks, every wisp of straw or hay that can be converted into fodder or manure, is assiduously gleaned up and put to some good account. Americans throw away; Europeans economize. If we wasted less annually, we could feed more stock, and so manure more land. Some time or other, perhaps we shall find this out.

Let us now consider economy as it relates to corn stalks. For horned cattle especially, this is first rate feed. Our horses will claim the best of hay, or cut straw, or both. Yet, if stalks are well cured, then cut fine and mixed with meal, they make a good relish for horses, a food on which they seldom suffer from heaves. Sheep will get along with oat and pea-straw, with a few turnips and a little grain sandwiched between. Cows and oxen will take kindly to stalks, and waste little, if properly managed.

The cutting and harvesting is a matter of considerable importance. Cut them as soon as the ears are well glazed, and before hard frosts have wilted and dried up the leaves like chips. After being cut and stooked, they may remain in the field until the corn can be husked. And when the husking is done, care should be taken not to scatter the stalks upon the ground.

On some dry day in the latter part of this month (October), let the stooks be carried to the side of the barn-yard, where, on a low platform of loose poles or rails a foot or so from the ground, they can be stacked. A strong pole is to be set up in the center of the staging. Around this, lay up the stack, alternating the butts and the tops, and leaving a small aperture around the pole for ventilation. If a layer of bright straw is put in the stack, once in two or three feet, it will help to prevent mustiness, and the straw, absorbing the flavor of the stalks, will be quite palatable to the stock. Nor will it be labor lost, if a peek or so of salt is scattered in each stack as it goes up. When raised to the proper height, it is good economy to cover the stack with straw laid sloping so as to shed rain.

Now, does some tyro ask how to feed out stalks so as to avoid waste? We reply: no rack that we have ever seen, will prevent stalks from getting out and under the animal's feet. If they are fed in stanchions or stalls, it takes a great deal of time daily to clean out the refuse stalks. If they are fed out in scattered heaps around the barn yard, they will soon be trampled upon, and soiled, and when they have once been saturated with liquid manure, cattle will not touch them. We say, then, do not feed stalks in mild weather. Wait until the ground is frozen: the cattle will have keener appetites, and the ground

being hard and dry, the stalks will not get wet or soiled, and will be nibbled pretty close and clean. In thawing weather, feed out hay or straw in racks, where it will not be wasted.

A still closer economy will cut up the stalks fine with a straw cutter and feed them out with meal, steamed and mixed together. A small farmer may do this, and cut the stalks with his own hands. But he who keeps much stock, will have to use horse-power for cutting, otherwise his patience will soon give out.

Tim Bunker on Buying a Farm.

MR. EDITOR:—Deacon Smith has just been in to talk over the matter of buying a farm for his son David. You see, I have lots of neighbors that come to me regularly for advice, since I took to writing for the papers. I expect I have about as much business of this kind on my hands as if I had advertised, "TIMOTHY BUNKER, ESQ., CONSULTING AGRICULTURIST." How that card would look in the papers! If a neighbor wants to buy a horse, I am expected to tell him whether he is sound, just as if I could read his inwards like a book. If another wants to sow wheat, he seems to think it won't grow, until I have told what lot to sow it on. I declare I believe some of them think water won't run in a tile, unless I have squinted along the bore and told them just how much fall they must have to the 100 feet.

You see, the farming business has not caved in yet, notwithstanding the hard times. A good many of the factories have stopped, and some mechanics that have been doing pretty well, are now idle. Nobody now wants to buy a fine carriage, or to build a splendid house. People who have money do not like to spend it for articles of luxury, and people who have got their living by making these things, have been thrown out of employment. But the oldest of all employments is yet a thriving business, though the profits are not quite equal to what they have been. We must have breastworks for the war, and when the war is over, there will still be a demand for the fortifications *inside*. We buy and sell farms out here, and expect to for some time to come. I rather think farming will be the best business going for some years ahead. As a people, we have been living altogether too fast, for the last twenty years. The change in the style of living would make the bones of our fathers rattle in their graves. We have got to come back to a more simple mode of life, and spend less on our stomachs, and a good deal less on our backs, especially our women. Only to think of a thousand dollar shawl on one woman—a whole farm with its fifty acres of soil on the shoulders of one individual? They do say the like of it might be seen in your City less than a year ago. I rather guess some of them fast men with their fast women are wishing they had some of their scattered coin back again in their tills. Why, my mother, bless her memory, never spent a thousand dollars for dress in her whole life, and she lived to be eighty. Now there is reason in all things, as she used to say, and we have got to be a good deal more reasonable in our family expenses, or slump through. This war will bring all our people to their bearings, and make us spend our money for something worth having—for a principle, and not for pudding and pomatum. There will be some satisfaction in knowing that we have maintained the liberties and the blessed institutions handed down from our fathers, at any cost. I have given my boy to this cause, and if I have to give my farm, I think I shall grow rich by the oper-

ation. What is property worth to Tim Bunker when his country is lost? I have thought a good deal about this war, especially since John enlisted, and I have made up my mind that it will have a great many advantages as well as evils. It will stop this fast living and extravagance, and bring back a great many to the simple habits, and sterling virtues of our fathers. It is better to make sacrifices for a noble cause, than to make money.

A good many, like Deacon Smith's son David, are beginning to see a comfortable, honest, happy life on a farm, who would otherwise have been tempted to try their fortunes in the City, and gone to ruin like the thousands before them. I have thought a good many would be looking toward the farm this Fall, and the substance of my talk with the Deacon, might be useful.

I lay it down as a principle, that a man ought to own at least half the capital he means to invest in farming. If a man has nothing but labor to dispose of, he should sell his labor to the best advantage, until he accumulates sufficient capital to set him up in business. Not one man in a hundred will succeed, who runs in debt for his farm and stock. There must be several hundred dollars of interest money to pay every year, and this will be a heavy load to carry, with all the other expenses. But if he have money enough to buy a hundred acres of land, he may safely run in debt for the tools and stock. We must have some floating capital always on hand, to take advantage of the times, and buy cheap when we can. If a man wants more stock, it is better to buy it when stock is low, than when it is very high. Some times a little extra manure will help out a crop wonderfully, and fifty dollars spent in guano, or bone dust, will bring back a hundred in less than six months. It is very important to have the fifty dollars where you can lay your hand on it.

Then a man ought to consider his own habits and tastes, in the location of his farm. This is especially important to men who have lived in the City, and enjoyed its advantages. Society is much more a necessity to them than to a man who has always lived in the country. He will feel uneasy without the daily mail, and a little of the stir to which he has been accustomed. He should by all means locate near a village, or on the line of some railroad. The farm, good as it is, will not be a substitute for every thing he has been accustomed to. And if a man have been bred to this business, he should consider what particular department of husbandry he likes best. A man bred to the routine of a grain farm, would probably do better with this, than with a stock farm. It is less important that a grain farm should be near a village, or City, than a farm where a mixed husbandry prevails, and where a near market is essential. A man with a genius for trade, should locate near a good market, and raise every thing that sells well, both animal and vegetable products.

If one has a fancy for stock, cheap land and a wide range of pasturage are essential to success. A valuable horse or yoke of cattle may as well be marketed a hundred miles off, as sold upon the farm. Most of the horses and beef cattle sold in your city are raised from a thousand to fifteen hundred miles away. Land worth a hundred dollars and upward an acre, as many of the farms are near cities, can not be devoted profitably to pastures. They are worth more for something else.

It is always well to remember, in making a purchase of so much importance, that farms, as well as men, have a good or bad reputation, that

is generally deserved. Some farms are so fertile, so well proportioned, or so convenient to market, that they have always kept their owners in thriving circumstances. Trace their history clear back to the first settlement of the country, and you will find every owner what the world calls a lucky fellow. Other farms have the name of always keeping their owners poor. Sometimes they are in an unhealthy district, and much sickness has made large doctor's bills. Now unless you know just what the secret of an unlucky farm is, and can remedy it, avoid such a spot as you would the poor-house. You can not afford to try many experiments in a matter of so much importance. Is it a swamp that needs draining? You may safely venture, for there is wealth as well as health in knocking the bottom out of it. But as a rule, it is better to buy a farm that has a good reputation. If it has made others prosperous, with better husbandry it may make you rich.

Yours to command,

TIMOTHY BUNKER, ESQ.

Hookertown, Sept. 7th, 1861.

Pulverize the Soil.

Jethro Tull was not infallible, but he said many good and true things. Here is one of his paragraphs:

"The finer land is made by tillage, the richer will it become, and the more plants it will maintain. It has been observed that when part of a ground has been better tilled than the rest, and the whole ground constantly managed alike afterward, for six or seven years successively, this part that was but once better tilled, always produced a better crop than the rest, and the difference remained very visible every harvest."

Very well said, but must be taken with some abatement. What is true of one soil, is not of all. For instance: strong, clay land, rich in all the elements of vegetable growth, but which are locked up in compact masses of earth, will be greatly benefited by thorough pulverization. Begin in the Spring with a system of under-draining, to take off the surplus water beneath; follow up with a heavy plow and the harrow, keep the cultivator and the hoe bright all Summer, and the fertility of the land will be largely augmented. And this process may be continued for several years with like good results. Thorough tillage renders available certain unassimilated elements in the earth, and brings the soil into the most favorable state for absorbing valuable gases from the atmosphere.

But hardly the same results can be expected on light soils. They contain comparatively few of those elements of plant-structure which are found in rich clays, and they do not need pulverizing to render them pervious to light and air. Of course, if the basis of fertility is not there, no mere mechanical working can bring it in. Yet, by good tillage and rotation of crops, the frequent turning under of clover, and returning to the land all the manure made on the farm, any soil can be made productive.

A Good Law Disregarded.

It is a law of New-York State, that the Overseers of the Highway, in each town, shall "cause the noxious weeds on each side of the highway within their respective districts, to be cut down or destroyed, twice in each year, once before the first day of July, and again before the first day of September; and the requisite labor shall be considered highway work."

And this law has a penalty, too. Neglect of

the duty, is to be fined ten dollars, and any body is authorized to enter complaint to the Overseers, who are required by law to prosecute the delinquents. It is not easy to overrate the importance of this law to every agricultural community. And yet, how few pay any regard to it!

The Great End in Farming.

It is not the great end, to see how much hard work can be done, nor how much money can be earned in a given time. The aim should be, not only to better one's condition, but to improve one's self and his family, and to make himself useful, virtuous and happy. Which is first, THE MAN or his farm? The farm was made first, no doubt, so far as the earth and water and wood, are concerned; but in importance, the man stands first, and high above all, and he should always keep himself so.

It is folly to make one's self a slave to his land; bending his back, year in and out, in the hardest drudgery, regardless of his own improvement, and of his high relations to society and to God. Whenever a farmer, (and we might as well say, mechanic, merchant, or professional man,) finds himself a slave to his work, wearing himself out prematurely in the mad pursuit of money, he had better pause and ask himself a few sober questions: What's the use of all this work and worry? What is it going to amount to in the end? Am I true to the dignity of my own nature, to my family, to my Maker? Am I preparing myself for a serene and healthy old age? Am I not cutting short my days?

A little self-catechising of this sort is needful, especially in the hurry of haying and harvest-time; but it will not come amiss at any season. Let this instruction be given and received, line upon line, here a little and there a little.

Cleaning a Miller's Bolt—Another Method.

To the Editor of the American Agriculturist.

Five years ago I cleaned a miller's bolt that was pasted with flour, by applying alcohol with a brush, and then rubbing the bolting cloth with dry woolen cloths. I could not discover that the bolt was injured by the process.

The best thing that I have used to clean the bolt from beards, that will work in and hang in the cloth, is to tack a piece of common cotton sheeting over the reel so that it will drag on the bolting cloth. It should be of the same length with the reel. I have used it for four or five years. It is not necessary that it should drag on the reel all the time; it should be tacked on so that it will hang down by the side of the reel when not wanted. Whenever it is needed, it can be thrown over the reel without stopping the mill, or the reel when in motion. It is much better than spending a day occasionally with a razor in shaving the beards from the bolt cloth, which is also liable to cut the cloth. My bolt cloth has not been pasted with particles of flour since I have used the cotton cloth over the reel.

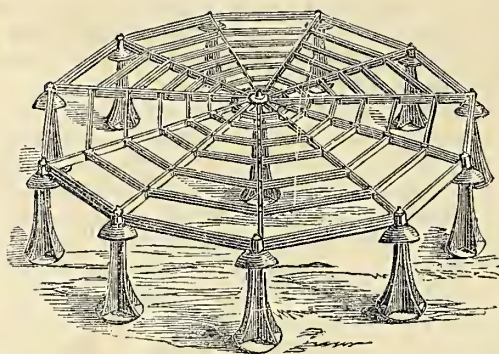
H. N. WEED.

Oswego Co., N. Y.

A Cheap and Durable Bar Post.

On almost every farm may be found a collection of old horse shoes, which can be turned to good account in making bar-posts. Select two middling sized sticks having a straight edge, (two heavy joists answer well,) lay them side by side and nail on the horse-shoes so as to form

the supports for the bars, and the work is done. In most cases it will be necessary to heat the horse-shoes and with a punch enlarge the nail holes sufficiently to receive the fence nails, which should be stronger and larger than horse-nails.



Improved Bottom for Stacks.

Stacking hay or grain is poor economy at best. Enough fodder is annually wasted by exposure in this way to pay a very handsome interest on the cost of buildings. Yet stacking must often be resorted to, as in newly cultivated regions before time or means have permitted the erection of barns or sheds, and also when an extraordinary yield more than fills the buildings which are ordinarily sufficient. As stacks are too often built, there is much unnecessary waste. A few rails laid upon the ground are not sufficient to keep the hay above from spoiling, and the bottom layer to the thickness of two feet or more is often spoiled for feeding, by absorbing water from below. The bottom of the stack also affords a fine shelter for rats and mice who usually take up their winter quarters there with impunity. The illustration above, which we have reengraved from an English paper, represents an arrangement for remedying these evils. Cast iron supports, having broad bases, and circular caps, are placed in a circular form, and ribs which may either be of iron or wood are laid in notches left for their reception. Cross pieces may either be laid upon these, or morticed or pinned to them, forming a substantial support for the stack, raising it out of the reach of wet and vermin. We are not aware of their use in this country, but the iron stands could easily be made at any foundry, at no great cost, and they would last for generations. They are portable, and thus readily carried where wanted. Wooden blocks, with tin rims or caps, would answer a similar purpose.

Keep the Farm Stock Thriving.

The change from a diet of roast beef and mutton chops with plenty of vegetables, to salt pork and hard crackers, such as was experienced and complained of by many volunteers in the war, is hardly less great than that to which animals in northern latitudes are annually subjected. In a few weeks the fresh, juicy herbage so grateful to bovine palates, will have felt the frost's sharp breath, and become withered and tasteless. Long before the cattle and sheep will cease to graze, if kept confined to the pasture, their food will be diminished in nutritive value. Just at this point in the year, without proper care, stock will receive a severe check in their growth. There is danger, in the first place, that commencing to feed with an allowance from the winter stores may be delayed too long. The object in feeding should be not merely to keep animals alive, but to keep them gaining in

weight, and to do this, as the quality of food gathered in the pasture decreases in value, amends must but be made from other sources. The value of root crops will now be appreciated. First, there will be a large quantity of the tops, which are highly relished by stock, ready to feed just when most needed. When these are exhausted, the roots themselves will be taken greedily along with the forkful of hay which the provident farmer will allow to cattle night and morning, as the grass begins to fail.

If there be no roots raised, then supply the deficiency with a little corn or oats. The grain in this case will not be wasted, it will be found again in beef, mutton, or wool, and thus will only be taking a little longer route to market, while it will pay the farmer heavy toll by greatly increasing the value of the manure made. In this way the change from summer to winter feeding may be made so gradual, that the animals, with their appetites stimulated by the increasing sharpness of the weather, will scarcely feel it; and by keeping up a variety of food, alternating with hay, cut straw, stalks, roots and grain, they may be kept in full vigor and growing during the whole Winter, and start off vigorously in Spring.

How to Choose a Horse.

To become a good judge of horse flesh requires years of observation and practical acquaintance with the animal. No mere descriptions are sufficient to qualify a man to go into the market to purchase a horse with safety, for in no other article is there so much deception practiced. The following directions from the Ohio Cultivator are valuable as suggestions indicating the principal points to be studied:

First, notice the eyes, which should be well examined. Clearness of the eye is a sure indication of goodness; but this is not all—the eyelids, eyebrows, and all other appendages must be also considered, for many horses, whose eyes appear clear and brilliant, go blind at an early age; therefore be careful to observe whether the part between the eyelids and eyebrows are swollen, for this indicates that the eye will not last. When the eyes are remarkably flat, sunk within their orbits, it is a bad sign. The iris or circle that surrounds the sight of the eye, should be distinct, and of a pale, variegated, cinnamon color, for this is a sure sign of a good eye. The eyes of a horse are never too large.

The head should be of good size, broad between the eyes, large nostrils, red within, for large nostrils betoken good wind.

The feet and legs should be regarded, for a horse with bad feet is like a house with a weak foundation, and will do little service. The feet should be of a middle size and smooth; the heels should be firm, and not spongy and rotten.

The limbs should be free from blemishes of all kinds, the knees straight, the back sinews strong and well braced; the pastern joints should be clean and clear of swellings of all kinds, and come near the ground, for such never have the ring-bone. Fleishy legged horses are generally subject to the "grease" and other infirmities of that kind, and therefore should not be chosen.

The body should be of good size, the back straight or nearly so, and have only a small sinking below the withers; the barrel round, and the ribs come close to the hip joints. Shoulders should run back but not too heavy, for a horse with heavy shoulders seldom moves well; chest and arms large.

A horse weighing from 1,300 to 1,400 is large enough for a cart horse; from 1,100 to 1,200 is large enough for a farmer's horse; from 1,000 to 1,100 is heavy enough for a carriage horse.

For the American Agriculturist.

Chester County Swine.

The points by which a genuine Chester County pig may be known, are well established. They are briefly as follows: *Head*—Short and broad. *Face*—Somewhat dished; wide between the eyes and jowl. *Ears*—Fine and thin, standing out from the head, and the point drooping a little forward. *Neck*—Short and thick, well set on the shoulders, which are prominent and full. *Sides*—Carry their full width back to the hams, and rounded; never slab-sided. *Hams*—Rounded, swelling out behind and at sides, and presenting a full round appearance at all points. *Back*—Straight and broad. *Color*—Clear white; when well washed frequently presents a silky appearance. The least black spot or approach to a sandy color indicates a grade animal. *Hair*—Soft, thin in the back and belly, more thickly set on the sides and frequently a little waved. *Bones*—Small and fine. *Tail*—Fine, tapering and curled. So much for "points."

What the Chesters will do :—At 8 weeks old a well cared for animal will measure about 30 inches in length, and weigh 50 lbs. It will continue to gain on an average, 1 lb. per day until 2 years old, and when forced by high feeding, has frequently reached 1000 lbs. weight at that age. So remarkable is the aptitude to fatten, that at any age, or any season of the year while running to pasture, or with no food but the ordinary "slops" of the kitchen or dairy, it will keep in very fine order for the butcher. And with this disposition to fatten without being fed on grain, it is claimed for the Chesters that they will make more pork at a less cost than any other breed on this side of the Atlantic, at least.

A CHESTER COUNTY, (PA.,) FARMER.

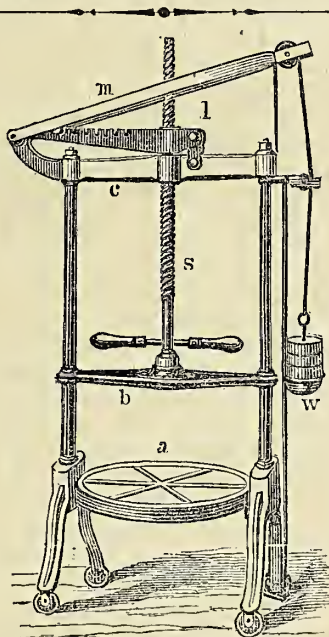
Commence to Fatten the Poultry.

In a few weeks the stalls of the City markets will be decorated with the annual show of poultry. Festoons of chickens interspersed with ducks, and flanked by piles of plump geese and portly turkeys, will invite purchasers to enrich their tables with dainty viands.

Their good condition, and the prices they will bring, will depend very much upon the treatment they are now receiving. Fowls which are permitted to run at large until perhaps within a fortnight of Thanksgiving, and then are hastily stuffed with raw grain, will make a poor show beside the well rounded forms of the farm yard pets which have been kept fat throughout the season, and which only needed a little finishing off to prepare them for market. The business of fattening poultry for the Fall market should commence now. It can be done better and more cheaply than later. Fowls fed on boiled potatoes mixed with meal will thrive finely. It will take a little longer to fatten them in this way, but the feed will cost less. Cook the meal with the potatoes, and mix the whole well together. Moistening well with sour milk will be an addition. It will pay to cook grain of any kind for fattening poultry. Allow them to run in the yard until within two weeks of the time of killing, and supply them with gravel and ashes, and with plenty of pure water. Young fowls should be generously fed, not only to fatten them, but to fully bring out the second growth of feathers, or the flavor of the flesh will be very inferior.

The kind of food used, has much to do with the flavor of meat. Ducks which are reared in filthy places, are far less palatable than when

kept in clean quarters and fed with grain and other wholesome food. Many prefer the flesh of geese because of their cleanly habits in feeding. A little attention to these matters now, and proper care in dressing and marketing the year's poultry, will make no little difference in their reception in the City, and in cash returns.



A Simple Press, for Cheese, etc.

We frequently find in the foreign journals, advertisements of implements which are unknown in this country. Some of them are worthy of being introduced, but this is not done, partly because the foreign inventors do not sufficiently appreciate the importance of our market, to pay for securing American Patents, and partly because no one here has had the enterprise to hunt up such implements and manufacture them. We have occasionally introduced articles of the class referred to, and shall continue the practice—The accompanying illustration we engrave from a cut advertised as a "CHEESE-PRESS, No. 5," by James Mellard, of Rugeley, Staffordshire, England. No description is given, but the diagram shows at a glance the construction, and the working of what seems to be a very simple and effective press to be used for cheese, fruits, etc. Two iron rods stand on branching feet, which are fitted with castors or rollers to make the apparatus portable. The bed-plate, *a*, supports the material to be pressed; and the movable cross-bar, *b*, is brought down upon it with considerable force by the screw, *s*, which appears to pass freely through the top cross-piece, *c*, and to work in a nut in the lever *l*, while it again passes freely through a morticed opening in the upper lever, *m*. It will be seen, then, that any desired amount of pressure may first be given with the screw by means of its lever handles, and then the pressure is followed down by means of the weights, *w*, acting upon the compound levers, *m*, and *l*. The upper lever, *m*, appears to be attached to the lower one, *l*, by means of a catch and successive notches. To save the frequent adjustments required by this arrangement, it would seem to be preferable to let the end of *l* play in a groove along the under side of *m*, in which case it would always be in place. We see no apparent use for the rod at the right, except as a guide to the weight, which would seem to be unnecessary. The above apparatus, if of iron, may be made quite light, and be taken to pieces readily and packed

in small compass for transportation. As there is probably no patent on these presses in this country, they can be made by any manufacturers.

For the American Agriculturist.

Wintering Bees in the Cellar.

Last Winter, I had eight swarms of bees, three of which were weak "second swarms." At the commencement of cold weather I took the three swarms into the cellar, and set them on a scaffold, hung from the ceiling. I had heard of keeping bees in the cellar, so concluded to try it, as I knew these would perish if left out. They were kept in the cellar until the maple blossoms had opened in the Spring, when they were placed on their old stands, from which they were taken in the Fall. I do not think there was a handful of dead bees altogether. The five left out doors were stronger swarms, though I found in the Spring they had consumed most of the honey, and a good many of the bees were dead. The swarms that were in the cellar proved to be the best in the collection; they grew stronger rapidly, swarmed earlier, and produced most honey. The cellar should be a dry one, and perfectly dark. JABEZ

For the American Agriculturist.

Interesting Experiments with Bees

About the middle of June of the present year, I observed a little cluster of bees upon the front of one of the hives, which appeared to be in confusion; on nearer inspection I saw a young queen in the midst, which explained the unusual anxiety they appeared to manifest.

I conjectured that she had escaped to the outside of the hive, after issuing from her cell, to avoid being massacred by the old queen, who, for some cause, had refused to vacate the hive by leading out a swarm; and had thus compelled her royal daughter to suffer as a usurper, or fly for her life. Being somewhat anxious for a swarm, and none having yet issued, I thought here was a chance; so I took the matter into my own hands. There was a box with glass sides partially filled with comb and honey, upon this hive. I caught the young queen and confined her under a tumbler, then took off the box from the top of the hive, with all the bees that were in it, and then let the young queen enter through a hole in the bottom, and at once placed this box upon the top of an empty hive. I next removed the old hive about twenty feet distant, and placed the one with the young queen upon the stand where the old one had stood, until the new hive contained enough as I judged for a good sized swarm, when I returned the old hive to a stand about two feet distant from where it had formerly stood.

In the course of a few hours they all settled down into quiet every day life; and I congratulated myself with the thought, that by a sort of snap judgment, I had succeeded in preserving an artificial swarm. This would doubtless have been the case but for a sad accident which soon befell the young queen. Three or four days subsequently I saw what I supposed to be another queen on the outside of an adjoining hive, pursued by a score or two of workers which appeared to have designs upon her life. I at once rescued her, and proceeded as before with the intent of making another artificial swarm. But when I put her in the box, they seized her, and had she not made a precipitate retreat, would have dispatched her at once. She fell to the

ground and appeared to be in the agonies of death, but after a time partially revived, but one side seemed to be wholly paralyzed. While I was considering my failure and commiserating the fate of the queen, I observed my first artificial swarm to be in a state of the utmost confusion, running in every direction upon the outside of their hive. Here is my explanation: their royal mistress had been out upon an excursion with the drones, and on returning missed the entrance of her own home, got upon the wrong hive and met the reception that the strangers thought was due to a rival of their own royal mistress.

I returned her to her own hive, they received her with every mark of gladness, but the next day I found her near the entrance, so crippled that she could not ascend the side of the hive; and I placed her among the bees in the box. She lingered a few days longer and one morning I found her dead before the entrance, and the bees all in confusion, as is usual whenever they loose their queen. On examination, no eggs or young bees were found in the combs, and I concluded my swarm was destined to a failure, unless I could procure them another queen. So on the first day of July I took a queen cell from a neighboring hive, that had just swarmed, and put it next the glass on the edge of the sheet of comb, just pressing the edge of the comb around the rough edges of the cell, so as to hold it to its place. The bees at once appeared to comprehend their acquisition, and paid the most assiduous attention to the cell. I examined it two or three times daily; and on the morning of the seventh day of July, on lifting the cover I saw the mouth of the cell open; and on looking on the upper edge of the comb there stood her royal highness surrounded by several of her subjects, which from time to time extended their tongues and gently passed them over various parts of her body. For several days she appeared to make her headquarters near her cell where she had issued, as I saw her constantly on the same piece of comb. On the 15th of the month I saw the before-mentioned cells in several places containing eggs. On the 18th young larvae were distinctly visible. These cells were some of them sealed over on the twenty-third. And now, August 2nd, the young bees are issuing quite speedily. I also saw several issue yesterday.

By the foregoing observations I think several facts are established:

First.—Artificial swarms may be made, with entire success if taken in the proper season:

Second.—The queen begins to deposit her eggs several days sooner than most authors have asserted. Issuing from her cell on the 7th she began to lay eggs on the 15th at the latest—only eight days from her issue. Ten days has been the time generally allowed her. I think in this case it was but seven days; as I saw eggs quite plentifully early in the morning of the 15th.

Third.—The bee is matured much sooner than supposed by many: Eggs deposited on the 15th developed into the perfect bees by the 2nd day of August—giving but the interval of eighteen days at most. A high temperature may have produced the difference; but it would seem that this will hardly account for it.

Mr. Quinby says, "she will begin to deposit eggs in about ten days, possibly a little less;" this would have brought the time up to the 17th. Then allow twenty days—the shortest time he gives—for maturing, and it would be the 6th of August, lengthening the term by just one fourth.

Jefferson Co., Iowa.

E. L. BRIGGS.

Chapter on Hedges.

In answer to many inquiries we give herewith in as condensed a form as the subject admits, the main points needing attention in successful hedge-growing, with illustrations.

In the first place, much care should be given to the cleaning and preparation of the soil along the proposed line. If large trees or shrubs grow in the immediate neighborhood, they should be removed. Hedge-plants may, indeed, live and grow under the drip of trees; but as they are thereby deprived of abundant light and dew and rain, and are robbed at their roots of much needful food, they cannot grow as vigorously as those in the open air. If, then, one desires a good hedge, and one of uniform strength and beauty throughout the whole line, he must get rid of surrounding trees and bushes.

Then, the ground must be cultivated and enriched. Lay off a track, say five feet wide, plow or spade it, according to circumstances. Any part of the soil less fertile than the rest, should receive more manure. The ground should be brought into uniform richness, so that the plants will grow with uniform strength all along the hedge—a matter of great importance.

The next thing is buying and setting the plants. Buckthorn, Osage Orange, Privet and the like, can be bought at the leading nurseries, for from four to six dollars a thousand for yearling plants. If one is in no haste, and wishes to practice economy, let him raise his own plants from seed. When ready to plant, see that the ground is clean and in fine tilth, stretch a line along the middle of the border, and dig a trench about ten inches deep, and as many wide. Cut back the plants to two buds, and clip the ends of the coarsest roots. Set the plants eight or ten inches apart, and exactly on the line. Weak plants should be rejected, and only those of uniform strength set out.

If the hedge is to be made of evergreen plants, the same care should be used in preparing the soil, but with this difference, that no manure should be worked into it within six months of planting time. Set them carefully on a line, and at such distance apart that the ends of the branches will just touch each other. In a few years, they will interlock. Cut in the tops and the side branches, and mulch the roots with leaves, laying on a few stones.

Both deciduous and evergreen hedges should have the ground kept clear of weeds the first Summer, and in the Fall, or in the following Spring, the soil should have a dressing of manure. For evergreens, the manure may well consist of leached ashes, chip-dirt, or rotten leaves, though old barn manure is often used with advantage.

The Second Year.—If any plants (we now refer to deciduous plants) failed to grow, last season, or started quite feebly, they should now be replaced. At this time, also, go over the entire row, and trim down to about four inches of the ground. Give the border a good cleaning, and work in the old manure.



Fig. 1.

Throughout the Summer, keep down all weeds. If the plants make a very rampant growth, they may have a second pruning in August, but this we do not recommend. In Autumn, it is well to apply a little manure.

The Third Year.—In the Spring, before the buds start, give the annual pruning, cutting back half the previous year's growth. Cut most se-

verely at the top, and bear lightly on the lower shoots. The hedge is now, we will suppose, a foot or eighteen inches high. This is slow progress, some will think, but it is rapid enough. The most important part of our work is done, for we have got a good base to our pyramid, broad and strong. The roots are strong and the branches are filled with stout buds, and a multitude of them. These buds will break vigorously on every side, during the Summer, and make a growth of at least two feet. Keep the ground well hoed during the season. For an ever green hedge, the pruning will be less severe.



Fig. 2.

The Fourth Year.—Proceed with the usual Spring shearing, taking off about half of the last year's growth. Be sure to leave the bottom branches a little longer than the top, aiming always to keep the hedge in the general shape of a tall bee-hive, fig. 1. The practice of some, to train their hedges into the shape of a box, flat-topped and square-sided, (fig. 2,) and of others to cut them to a sharp peak and with a broad shoulder, (fig. 3,) is very objectionable. These forms are stiff and unnatural, and hard to preserve from year to year. After the fourth season, the hedge may be sheared twice a year, say in June and September, allowing it to gain eight



Fig. 3.

inches or a foot, annually, until it has reached the desired height and size. As a general rule, five feet is a good height, though for a garden enclosure to break off cold winds, six feet would be better. After the hedge has reached its destined elevation, it must be sheared often, and not allowed to gain more than an inch annually. And once in four or five years, it must be cut back to the original point of five or six feet. In a locality suited to its growth, a hedge so planted and trained, will make a living wall of verdure, from the ground to the top, unbroken, symmetrical, and every way satisfactory. Unlike our common wood fences, it will not rot, nor be thrown over by the wind, nor heaved out by frost: it will need no painting or mending. Give it an annual shearing, and it will last a long life-time.

The Best Hedge Plants.

The great difficulty with us heretofore, has been, to get a suitable hedge plant. The hawthorn, so famous in England, does not answer as well in our arid and cold climate. We have several other plants that make a fine ornamental screen, but not more than one or two that will make a hedge strong enough and thorny enough to repel vicious cattle, including the two-legged sort. Yet it deserves mention, that some of these thornless plants, if well cut back at the start, and made dense and stiff from the ground, and carried up to five or six feet in height, will sometimes answer for protecting hedges. For if cattle can not see through a hedge, they will seldom try to break through it.

THE PRIVET. (*Ligustrum vulgare*).—This is a beautiful shrub, and thickens up well when trained for a hedge. It is easily propagated from cuttings, grows fast, the foliage is a lively green, showered over in spring with an abundance of small white flowers, and it holds its leaves until about mid-winter. It has no thorns. North of

this City, it is liable to be winter-killed. For an inside screen or division line, it is good.

THE BUCKTHORN, (*Rhamnus catharticus*), wants only a supply of stronger thorns to put it at the head of the list among hedge plants. It is a native American, being found wild in the latitude of Albany. Experience finds it to be hardly as an oak through all our northern climates; it is not particular about the kind of soil, is subject to no diseases, is not infested by insects, and cattle seldom browse it, as the foliage has a very bitter juice which is exceedingly distasteful to them. In good land, it makes shoots four feet long in a season, yet it yields well to the pruning knife, and becomes very thick and stiff. It has no thorns until it is three or four years old and has been well sheared. We daily see hedges of this, which were all cut back for the first two or three years, and then steadily carried up, perfect walls of verdure, four feet thick and six feet high, quite stiff and thorny, and so dense that nothing can be seen through them. A bullock would doubtless push through them if he tried. Where this plant is used as a street fence, it is a wise precaution against the attacks of horned cattle, to run a light railing in front of it, say three feet high, and with a single narrow board from post to post. Paint the posts and boards green, and it becomes almost invisible.

THE OSAGE ORANGE, (*Maclura aurantiaca*), is strong and thorny enough for any body. It has been widely planted at the West, and is very useful on the prairies where fencing timber is scarce. It does not suffer from the borer, or mildew, or any disease that we know of: its armor of thorns is absolutely terrific; and when it is well pruned from the beginning, it makes a handsome hedge, and one that is proof against inroads of thieving boys, pigs and poultry, and all sorts of trespassers. Yet, we regret to say, no Western traveler can fail to observe that full half the Osage Orange hedges there are failures. The plants grow very rampant, and, if not headed back vigorously at the start, soon get beyond all control; and of course, if the hedge is not started right, it can never be made right afterward. Farmers, with large grain fields to look after, are very apt to neglect their hedges. Then, too, this plant is a gross feeder, and exhausts the land for several feet on each side. The leaves expand late in Spring and drop early in the Fall, but during their expansion are exceedingly beautiful. North of latitude 40°, it is too tender for a permanent hedge. Throughout the middle States, the tips of last year's growth are often killed back a foot or so by the Winter; but this saves just so much pruning.

THE HONEY LOCUST (*Gleditsia triacanthos*).—Here, also, are thorns enough, and hardness enough for any climate south of Quebec. Some object to it because it grows so lustily, and needs so much shearing; but this is not a valid objection; two annual clippings keep it in subjection. It may be a little coarse for a hedge in front of a nice lawn and residence, but as a farm hedge in all the northern States, we know not its superior. To propagate it, sow the seeds on the line of the proposed fence, or set out yearling plants, about six inches apart. Head it back once a year, in Spring, for the first three years: afterwards, prune twice a year, in June and September.

Other deciduous plants are used for hedge-making, which sometimes answer tolerably well. The old English Hawthorn sometimes succeeds for several years—we have seen it thriving in some places for ten or twelve years—but it is not suited to our climate. The borer infests it

often, killing out the plants in patches, and mildew blights the foliage. The Beech, Lilac, Hornbeam, Berberry, Willow, Upright Honeysuckle, Euonymus, Althea, and others, answer for inside divisions, but not for hedges proper.

Evergreen Hedges have also their claims. They give character to one's grounds, and mark the outlines and divisions in a visible manner all the year. They shield one's garden and lawn from the cold winds of Winter and Spring. They do not have thorns, but if well pruned and then partially protected by a railing, or line or two of wire on the street side, they answer.

THE NORWAY SPRUCE (*Abies excelsa*).—Take plants about four feet high, and well furnished to the ground, set them about five feet apart from center to center, cut out the leaders and shorten in the side branches a few inches, and a good hedge will be the sure consequence. Of course, they are to have good soil, and to be pruned every year afterward like other hedges.

THE AMERICAN ARBOR VITÆ, (*Thuja Occidentalis*), erroneously called white cedar, makes an excellent hedge. It can be had at a cheaper rate than any other; the plants are sure to grow under any decent treatment, and are hardy in Winter. Its dingy brown hue in the frosty weather is an objection to it. In that good time coming, when the Siberian arbor vitæ shall be common and cheap, we shall have a much better plant than the native American.

THE HEMLOCK (*Abies canadensis*).—We can never tire of singing its praises. For an ornamental hedge, nothing can equal it. A vivid green all the year; hardy far up into the Canadas; so dense, when pruned, that the smallest bird can not fly through it, nor see through it; growing, better than most plants, under the drip of other trees, and so manageable, that the pruning shears easily control it. Transplant on a showery day, the plants being two or three feet high; keep the roots from air and light, and mulch as soon as planted. There is some difficulty in moving young hemlocks, but not so much as many imagine.

The Junipers, especially the Red Cedar, also the Holly, Yew, and Tree Box, are sometimes used, but they either die out in spots, or become so lank at the bottom, or suffer so badly from Winter frosts that they seldom give much satisfaction. They may do well elsewhere, but can not be recommended for our climate.

Greenwood Cemetery.

If any of our readers visiting the City this Fall, have a part of a day to spare, we advise them to spend it in a jaunt to Greenwood Cemetery. Crossing the ferry to Brooklyn, the horse-cars take you within a few steps of the Cemetery gate, for five cents. If you are strong-footed and have plenty of time, you can traverse much of the ground on foot; otherwise, it would be better to take a carriage. (A carriage for four persons or less, can usually be engaged at the gate to go through the principal drives, spending an hour and a half, or so, for one dollar, if the time and price be agreed upon before starting.)

About three hundred and ninety acres, we believe, are now owned by the Company, and nearly every square rod is kept under careful cultivation. It is said to be the largest establishment of the kind in this country or in Europe. Many of the original forest trees and shrubs have been preserved, and others, both native and foreign, have been added. No visitor will

fail to notice the beautiful weeping willows skirting the ponds and trailing their branches in the sparkling water. These ponds, or miniature lakes—styled also, on the map of the Cemetery, Sylvan, Arbor, Valley and Osier waters—are among the finest features of the grounds. They are not dull, stagnant pools, but are kept fresh and moving by streams of water pouring in and out of them. The water of Sylvan lake is forced into an elevated reservoir, from which it is conducted in pipes to different parts of the grounds for irrigation and for the supply of fountains. One or two large and deep wells also have been dug, from which powerful steam engines raise water at the rate of three hundred gallons per minute, to furnish constant streams running into the ponds, and so keep them in healthy circulation.

The roads and walks wind here and there in graceful curves, through all parts of the grounds. They are broad, well graded, and are kept in excellent order. The roads, exclusive of the paths, extend nearly twenty miles! They conduct the visitor to a great variety of views of the surrounding scenery—the Bay and Harbor of New-York with its forest of masts, its islands and forts, the shores of the Hudson and East rivers, New-Jersey, Staten Island, the Quarantine, together with a view of the Atlantic ocean from Sandy Hook to Roekaway.

Whoever is interested in the art of sculpture, will find much to engage his attention. Here, as elsewhere, he will see that show is often in inverse proportion to real merit. Three of the most pretentious monuments bear the names, respectively, of a female tobaccoist, a world wide advertiser of sarsaparilla, and a prosperous stall-keeper in Washington market. The sea-captain's monument is another of the "lions" of the cemetery. This man, determined to have something original and striking, brought home, on one of his cruises, a massive block of Italian marble, and an Italian sculptor. He ordered the artist to "do" him of the size of life, copying his features exactly, and representing him standing and taking an observation of the sun with his quadrant. This work having been done to his liking, he bought a conspicuous lot in Greenwood, built a high pedestal in the center, and caused his marble self to be elevated upon it, as his monument. The old gentleman still survives, and takes much satisfaction in visiting the monument, and showing it to his friends. The story goes, also, that one day he went alone into the vault beneath the monument, and while there the door closed behind him, and, shutting with a spring, fastened him in. After spending about twenty four hours there, his cries caught the ear of some passer-by, and he was released!

But while there are a few things of this sort, calculated to excite mere curiosity, there is much beside, to awaken higher and better feelings. Here are noble monuments to firemen, to captains, pilots, and sailors, who sacrificed their lives in the endeavor to rescue others from death by flame and flood. Here are appropriate testimonials to eminent civilians and philanthropists. Here are humbler tributes of affection to the memory of the loved and lost, in thousands of families—humble, it may be, but often exceedingly touching and beautiful.

It is well worth one's while to turn aside occasionally, from the haunts of busy life, to visit these cities of the silent. They show him what civilization, refinement, and Christianity would do for man's last resting place. They sober our views of life, and at the same time cheer us by the respect paid to the good departed.



What War is waged against.

Ammunition.

Editorial Staff.

Scenes of past conflicts and victories.

“OUR VOICE IS STILL FOR WAR!”

Plant Small Trees.

Young America is in such haste to realize results, he can't wait for trees to grow in the natural way. He wants to transport huge sons of the forest into his new place by some sort of patent machinery, so as to make a grand show *immediately*. He has little idea of what constitutes a perfect vegetable structure, small or large; he knows little of the pleasure which comes from watching the steady development and growth of a small tree, from year to year. No, no, he wants to leap up to grand achievements at once; he wants a lot of big trees, and that's all, and that's enough for him.

We beg a little consideration for small trees. Go to the open field, or to the nursery, and select a good specimen of almost any good tree—say the beech, or maple, or tulip, or hemlock. Take one or more of each, three or four feet high, that have branches well formed on each side. Save all the roots and fibers in digging them up, and in carrying them home don't bang them to pieces, root and branch, but treat them with the utmost tenderness. Prepare large holes, in rich soil, and set them out so that they will grow vigorously. Clip the ends of the branches just a little, but do this so as to preserve the original symmetry.

Now, watch these trees, from year to year. How healthy they look, in every limb and twig and leaf! How happy they look, shooting out their branches on every side, and dancing in every breeze! How graceful in every part, and as a whole! Can anything more completely fill one's eye! Small as they are, they are perfect in form, and plainly predict what they will be when full grown. Age will only enlarge their bulk, and bring them nearer the time of their decay. Is not "sweet sixteen" more charming than the wrinkled and toothless octogenarian?

He who sets out large trees is compelled to top off at least the lower branches, to enable the top ones to live. The roots are so mutilated in digging them up, that nearly all the branches have to be trimmed up and shortened in, to restore the balance of things. But such a tree, so marred in root and branch, is only half a tree. It is a fragment, to which the lost parts can never be restored.—Begin, then, with small trees. How they enjoy life! They will ere long outstrip the large stumps you set out at the same time. Set them on your lawn and pleasure ground. Throw away your pruning saw, and let them work out their own ideal. If you interfere at all, let it be only with your thumb and finger. Never fear their wanton ways. They will attain near to perfection, if you will only "let well alone."

For the American Agriculturist.

The Best Elm—Desirable Trees.

I noticed an article in the June *Agriculturist*, in which you give the preference to the American Elm. You are perfectly right. But twenty-five years' experience with the Dutch Cork Bark Elm leads me to differ with your statement as to its being perfectly hardy or desirable in all respects. It is sometimes killed several feet from the end of the branches by the hard winters, and except in yards or places where suckers are not regarded, it is a great nuisance. If planted near the house, the roots will travel to a great distance, and rob the roots of every other fine tree or flowering bush chancing to grow near it. It is a beautiful tree, and fine grower, and probably a

good tree for streets and sheltered situations. The English Cork Elm is liable to the same objections. The English field or broad-leaf Elm will not withstand the winters here, and like the foregoing, will throw off numberless shoots at the commencement of the dead branches, which quite disfigure it. The Scotch Elm is entirely hardy in this latitude, as far as I have observed, and has none of the objections incident to the others.

But why need we regret the loss of foreign varieties of Elm, when we have so many other beautiful varieties, perfectly hardy, that will never sucker. The Maples are the finest class of shade trees we have, from the most beautiful and compact growing Norway, to the erect and graceful silver-leaf and sugar Maples. They afford quite a contrast in their growth, and, if we include the ash-leaf variety, they would nearly supply the deciduous trees which a grove or lawn would require.

I would recommend, as a noble tree that always appears bright and clean, the Tulip tree or white wood. Also add the White Ash and Sweet Gum to the list usually selected. These trees are handsome through the season, do not sucker or throw off their leaves prematurely, and are very pretty in the Autumn. With us, the Horse-chestnut and Linden lose all their beauty the latter part of Summer, and are a disgrace rather than an ornament to the grounds after that. The European Larch is liable to the same objection, but it is such a beauty when it first leaves out, that we can hardly spare it from the collection, but it should not be planted very near the house, as the wind often blows the decaying leaves from the trees into the rooms, to the no small annoyance of the careful housekeeper. Weeping Willows should also be planted at a distance, for their leaves and fine twigs are dropping through the season, making much litter, and filling up the gutters, causing no little annoyance.

I. HICKS.

Queens Co., L. I.

For the American Agriculturist.

Hints on Tree Planting.

October is the great month for Fall planting. In the nurseries, in young orchards, in pleasure grounds, and by the road side, the spade is now busily at work, all over the country, setting out trees. We are glad to reflect that such is the fact. Let the good work go forward hopefully.

It is a subject of friendly dispute, whether Spring or Fall is the best season for this operation. Each season has its special advocates. To us, it seems plain that tender trees should be set out only in the Spring, while hardy sorts may be planted both in the Fall and Spring. If the soil where our trees are to be set out, is low or wet, the work should be postponed until Spring. And even then, that low, or wet soil should be drained, or else the trees might about as well be thrown at once on the brush heap.

This, too, should be said: if one is intending to plant a large and choice assortment of trees in the Spring, it is often advisable to purchase them the previous Autumn, because then the supply of fine, uncultured stock at the nurseries is much greater than in the Spring. Open trenches about two feet deep and three feet wide, in a dry and sheltered part of the garden, and "heel them in" at an angle of about 45°, covering the roots and a part of the trunks thoroughly with earth. Here let the trees lie until Spring; they will suffer less than if planted out separately. Early in Spring, give them their final destination.

Evergreens should not be transplanted in the Fall, unless we may except a few of the hardiest, such as the Arbor Vitæ, and Norway Spruce; but even they would fare better if set out in the Spring. They can get little or no hold of the soil before the Winter sets in, and then, with all their weight of Summer foliage on, they have to stand the lashing of Winter storms. If they must be set out in the Fall, we advise that it be done as early as September; that they be well staked and tied up before windy weather sets in; and that the roots be well mulched.

But hardy, deciduous trees may well go out in the Fall. They have taken in sail, by easting their leaves, and if put out now, early in October, in good, warm soil, the roots will make considerable growth before Winter sets in. To repeat what we have before mentioned in this journal, we had occasion once to take up, just on the edge of Winter, several bushes of Lilac, Spirea and Syringa, which we had set out in Early October, and were surprised to see what a fine growth of young roots had been made in six or seven weeks. The soil at this season retains much of the Summer's heat, long after the air above ground has become cool, and so it favors the emission of fibrous roots.

Hence, again, we advise Fall planting. Apple orchards, and hardy pear trees may now be set out. Hardy shade trees, such as maples, elms, and ash, may now be put in honored situations in the public park, the lawn, and by the highway. Set about this work now. The leisure or inclination may not come amid the hurry of Spring work. At least, make a beginning now: do what you can, and leave the rest until Spring. Make a careful selection of your trees, dig ample holes, and provide good soil for bedding the roots. Reduce the top branches in proportion to the shortening of the roots, and cover the wounds with wax or other weather-proof material. Drive in stakes on the windy sides, and tie the trunks to them with flat, leather thongs, or with stout "listing" from the tailor shops. In our experience, this last article serves an excellent purpose. It does not bark the trees, and by the time it rots and breaks, the tree no longer needs it. Orchard trees may be fastened with straw bands. Anchor them, also, by laying a few flat stones over the roots.

To Revive Dormant Buds.

Every gardener knows that sometimes his fruit trees and grape-vines lose their branches at points where it is very desirable to have them grow. For instance, a young pear-tree has one or two of its lower branches broken off, on its way from the nursery. If the tree is to be grown in a pyramidal shape, it is essential that these lower branches should be replaced. When grape-vines are trained on the renewal method, it is quite important to have the branches ranged along the horizontal "arms" at regular distances. But often a cane will get broken off, or by unsuitable management it will become weak or be reduced to a mere dormant bud. What to do in such cases, is often a puzzle.

A writer in the "Farmer's Journal," thinks he has found out a way to meet the difficulty. He says: "I passed a knife through the bark, and a little into the wood, just over the eye or 'knerl' where the branch should have pushed, or where it had pushed out when young, and had been rubbed off by accident. A careful examination will show plenty of dormant eyes or knerls.... The sap has only to be arrested at

this point to bring these dormant eyes to life. In passing the knife into the wood over the eye, it should be passed partly around the tree so as to form a slit or gash over the eye from a half inch to an inch long, according to the size of the tree; and be sure that you pass it through the inner bark and into the wood. . . . The result was very satisfactory."—If this practice will generally result satisfactorily, it will be of great value to the orchardist and vine-grower.

For the American Agriculturist.

Disease in Apple Trees.

BY A WESTERN NURSERYMAN.

I wish to contribute for the benefit of Western fruit growers, a few hints upon the cultivation of the apple tree, and especially with regard to a disease in the roots of the tree. The first symptoms are a check in the growth, and drying up of a few of the leaves about the fruit spurs. These are all that show themselves the first year. The next season the tree puts out its leaves fresh and fine, and, if large enough to bear, will blossom abundantly, and set a large crop of fruit. But the fruit will early show premature ripeness, and the leaves will begin to assume a pale, unhealthy looking color in June.

Now for the cause and remedy. Remove the earth from the collar of the tree so as to expose the main roots, when the bark, about three inches below the surface, will be found brown and spongy. Streaks of healthy bark will often be seen running down the roots, alternating with the unhealthy portions. To reinvigorate the tree, cut away any decayed portion of the roots, removing the dead bark from sound portions. Take half a pint of soft soap and pour it on and around the dead wood, and return the earth about the roots, and cut the branches of the tree back with an unsparing hand. The tree may not appear healthy until the next Spring, when it will usually come out all right, and the new bark and wood will begin to roil over the dead portions of the roots, or the wounds made in their removal. The healing process is the same as above ground, only more rapid at the root.

I find soap, both under and above ground, very beneficial to the apple, pear, plum, cherry, peach and quince. Rub the trunks once or twice a year with soap, or wash them with strong soap suds, using care not to get it upon the leaves, and the trees will be greatly benefited.

WM. M. JEFFREY.

Oak Hill Nurseries, Ill.

Borers Caught "Napping."

To the Editor of the American Agriculturist.

My apple trees were badly injured by the borer, and further damaged by using strong potash lye upon them. Last Spring I cut out what borers I could find, and encircled the trees loosely with roofing paper dipped in coal tar. Early in July I was surprised by seeing a small round hole through one of my protectors; but I concluded that the animal had escaped, and that it was a good riddance as I believed he would not return to so odorous a home.

About the 20th of August I removed the covering and examined my trees, when I found my enemy had built himself a snug nest between the paper and the bark of the tree, the material of the nest being firmly attached to each. From some single trees I took as many as thirty of these destroyers, which I dissected, or rather bi-sected with my pruning-knife. After this operation I

poured on a very little spirit gas, and I believe I shall not soon be troubled again with borers. I found two of the same unwelcome visitors upon my standard pear trees set out last Spring.

Fairfield Co., Conn.

C. W. BOND.

REMARKS.—Our correspondent does not describe the insect found in the nests alluded to. If really the borer, it must have been on its return from the tree in a winged state, and we are not aware that it ever constructs nests, as the female usually lays her eggs and then secretes herself in some position where she dies without undergoing any change. Again, there are seldom more than five or six worms in a single tree, even where badly infested, though Dr. Fitch speaks of a remarkable case in which twenty worms were found in one tree. It is probable that the hole through the paper was made by an escaping borer beetle, which would naturally continue gnawing until free, and that the nests or cocoons were made by worms or caterpillars of various kinds which had managed to crawl under the loose paper in order to secrete themselves while changing from the pupa to the perfect state, and most likely to spend the Winter in the secure quarters.—Ed.]

Insects upon Evergreens.

It can not be denied that insects of one sort and another are beginning to invade our conifers. The Scotch Larch is suffering badly in some districts. The Balsam Fir has long been infested. On this tree we have occasionally found a green worm, which curls up and drops to the ground as soon as the branches are shaken. But the worst enemy of this old favorite tree is a very small insect which covers the twigs and leaves, causing the latter to roll up, and giving the whole tree a shabby look. Where one has a large number of these trees, especially if they are old specimens, it is useless to try to extirpate these insects. But on one or two trees, we should think an occasional shower bath of whale-oil soap might be serviceable.

There is another insect—distinct, we think, from either of the foregoing—called the Pine Weevil, which infests the Pine, the Spruce, and Balsam Fir, and probably other evergreens. The first sign of his presence on a tree, is the drooping of a limb, sometimes the leading shoot, and then its falling. If, on first observing the injury, we cut off the shoot below the break, we shall find a worm about an inch long, of the size of a large knitting needle, in the central portions of the shoot, where he has bored a home for himself.

If these several pests increase largely, it will be a sad thing to all lovers of conifers. It is said that a species of ichneumon fly often deposits its eggs in the larvæ of the pine weevil, and preys upon it. Good fly! welcome to our grounds, and multiply and increase your progeny. Mr. Harris, the great insect professor, suggests as a check upon the weevil, to stick newly cut branches of pine in the ground in the neighborhood of favorite trees, during the season when they lay their eggs (April and May?). Examine these branches often, when they will be found covered with insects which may be gathered on blankets and burned.

APHIDES ON THE ASTER.—A correspondent writes that the aphides have attacked the roots of his Asters, and are doing much injury. A Brooklyn gardener recommends to carefully lift the plants from the ground, breaking as few fibers as possible, wash the roots, and replace

them. Though this seems hazardous, it may succeed if properly done, as the plants are hardy.

How to grow the Hyacinth.

It is unnecessary to make a labored plea for this old and well-known plant. It is able to speak for itself, and is a favorite with all who love gardens. It appears at a season when other flowers are comparatively scarce. It is easily managed, is beautiful and fragrant; and, rising up from the cold ground in early Spring, it seems like an old friend come to cheer us and to claim our sympathy in return.

Of Hyacinths, it is said that there are more than a thousand varieties cultivated in Holland; and the annual export of bulbs, (including tulips, etc.,) from that country to England, France and the United States, forms quite an important item of commerce. In selecting a lot for planting, it is advisable to get as great a variety of colors and shades as one's space will admit. One can have the patriotic colors of "red, white and blue," and every shade of them. He can also have white with red, blue, and yellow eyes, or with pink stripes, and green tips, etc. The double flowers are generally preferred, but the single often present the finest colors.

Hyacinths often fail to give perfect satisfaction, from two causes. First, they are planted in poor soil; and secondly, the tops are cut off as soon as the plants are done flowering. The latter is an injurious practice, because the bulbs need the leaves to store up food for next year's use. The foliage should be left untouched until it is ripe, which is indicated by its turning yellow; then it may be removed.

As to the soil, too much attention can hardly be given. Choose a good, sunny aspect, break it up two spades deep, carting off a part of the lower spit, if it is cold and stiff. The English formula for a hyacinth bed is as follows: "One third river or sea-sand; one third fresh, sound earth; one fourth rotten cow dung at least two years old; and the balance of decayed leaves or old peat." This is all very well, but it answers every ordinary purpose, if good garden soil is ameliorated by a dressing of old cow-dung, sand, and woods earth in equal quantities, mixed well together. Let the bed stand a week or ten days to settle. This work should be done the present month; if delayed until November, the growth of the bulbs and the flowering next year, will be quite feeble.

The bed being prepared, the next thing is to assort the colors so as to produce the best effect. This can easily be done. British florists have for years past, made this a matter of much study, and have fixed upon the following classification which proves to be generally satisfactory.

Dark Red	White	Light Red	Dark Blue	Light Red	White
Light Blue	Dark Red	White	Light Red	White	Dark Red
Yellow	Light Blue	Dark Red	White	Dark Red	Light Blue
Dark Blue	Yellow	Light Blue	Dark Red	Light Blue	Yellow
Light Red	Dark Blue	Yellow	Light Blue	Yellow	Dark Blue
White	Light Red	Dark Blue	Yellow	Dark Blue	Light Red

It will be found that the contrasts here are very good, whether the bed is viewed on one side or the other.

The bulbs being in hand, lay a straight edged board across the bed, and make drills by the side of it five inches deep. Set the bulbs six or eight inches apart. Put a small handful of sand at the point where each bulb is to stand, and bury the

bulb in it; then fill up with common soil. The top of each bulb should be about four inches below the surface of the bed.

In buying bulbs, take pains to select good sound roots—those which are hard, bright, without black spots, and whose buds have not started at all. Of the sorts which have an almost world-wide fame, and which can be got in almost every seed store, we give a few of our own favorite names:—*Waterloo*, double red. *Groot Voorst*, double, pale flesh color. *A la Mode*, double blue. *Nanette*, double white. *Grand Vainqueur*, single, white. *La bien Aimee*, double, dark blue. *Anna Maria*, double, white. *La Favorite*, double, yellow. *Bouquet*, double, orange. *Acengarius*, pale blue. *Acteur*, double, red.

As Winter approaches, cover the bed with an inch or two of strawy manure, which should be removed in the Spring, as soon as the hardest frosts are over.

And what we have said above, respecting the culture of the hyacinth, will apply in general to other Spring bulbs, including the Tulip, Narcissus, Crocus, Snow Drop, etc. It is best to plant the last two in September, though October will answer. They are less fastidious about soils than other bulbs, and should be planted only two inches deep. The tulip wants a deep, rich border, like the hyacinth, open to the sun, and with no standing water at the bottom of the bed. It wants a plenty of old hot-bed manure, mixed with leaf-mold and sand. If highly manured with half fermented dung, the colors will deteriorate and become "foul," as the florists style it.

A Hint for the Dahlia.

Seeing it suggested, last Summer, in the English "Cottage Gardener," that the bloom of dahlias could be improved and prolonged by mulching the roots with coarse litter dung, the writer tried the plan, and found it very successful. The mulch was applied in the latter part of Summer, just as the earliest buds were developing. The ground was first thoroughly hoed, to soften the surface. As the litter did not present a very neat appearance to the eye, we sprinkled over the top of it a little fresh-mown grass from the lawn. This mulch kept the ground from drying up, and when rain fell, it leached through the mulch, carrying down more or less liquid manure. But the rains not being always as abundant as we could desire, the soap suds from the weekly wash was applied, and with good effect.

The result of the whole was a fine bloom and a constant succession of flowers, unchecked by the prevailing drouth. The soap suds was also applied to the foliage, and served to check the ravages of insects. We advise young florists, who are apt to get discouraged with their dahlias, to make a note of this.

Over-Doing in Trenching.

Trenching is important in its place and time, if properly performed. But it is often over-done. Some persons, after reading such earnest appeals as the late Mr. Downing and others were wont to make on this subject, have been known to rush into their gardens and dig away violently, bringing up the bottom soil to the surface, and burying the top soil beneath it. This they thought the *summum bonum* of horticulture; this was thorough work, and all else was superficial play.

Where the top soil is worn out by long crop-

ping and no manuring, this sort of trenching is all very well; it brings up virgin soil, and exposes it to the ameliorating influence of sun and air. It is a partial substitute for manuring the upper soil. But, in ordinary cases, such tillage is not to be commended. It buries soil which is light and porous, abounding in the food of plants, sinking it out of sight and below the reach of common plant-roots, and substituting in its place a mass of cold, comparatively barren earth, unfit for the germination of seeds and the healthy after-growth of vegetation. There are, indeed, some roots which strike deep into this lower soil; but they are sent down chiefly to anchor and brace the plant, and to bring up moisture to it in time of drouth. As some one has said, roots are "the hewers of wood and drawers of water" to the vegetable establishment. The feeding roots lie near the surface, and the real nourishment of the plant should be placed within their reach. When this cold soil is brought to the surface, it needs tilling and manuring for at least one year, to bring it into good order.

In place of the above, we recommend *deepening* the soil, not turning it upside down. If it is a large tract, run through it a heavy plow, then follow the same furrow with a subsoiler, to break up and loosen the bottom earth, but not to raise it to the surface. So, in the garden, throw off the top spit on one side of a proposed section, then with a long spade, break up another foot deep of earth, and return it to its place. If you have coarse manure to spare, mix in a little with this lower soil; it will help to keep it loose and porous, aside from the fertility. Now, throw back the top soil to its original place, and manure this to your liking. This is trenching to a moderate depth, to be sure, but it is of the right sort so far as it goes, and it is enough for all ordinary purposes. It is twice as deep as the mass of our tillage goes. Whatever is planted in ground so treated will prosper. The dark colored surface soil, rich in humus, is just what nature furnishes for her plants. If we go into the forests and uncultivated fields, we everywhere see that nature provides for her vegetable offspring by placing the food near the surface: she does not bury it. So we say, let trenching go on, but let it proceed with discretion, and not turn the world upside down, nor the soil upon its surface.

Weeds in Walks.

They will often grow there, however well the walk may have been made originally. A good preventive, in the original construction, is to take off the top soil, (in which the seeds and roots of weeds chiefly abound,) to the depth of six or eight inches, fill up the cavity with small stones or bricks, and then put on an inch or two of coal-ashes, finishing off with fine gravel. Here, as will be readily seen, is little food for vegetable growth. Yet, enough refuse matter will soon accumulate on the surface, to give weeds a foothold. And the best way to keep a walk clean, is to keep the hoe busy all through the season, extirpating every weed as soon as it appears. Where there is a great extent of walks, some persons use refuse salt, scattering it over the gravel, once a month. This answers for a time, but a smart rain or two converts salt into a manure, which gives the weeds a fresh start.

In some gardens, the following mixture is used with good effect: Ten gallons of water, twenty pounds of quick lime, two pounds of flower of sulphur, mixed and boiled in an iron vessel. After settling, draw off the clear part,

and sprinkle it on the weeds through a common sprinkling-pot. As it is very caustic, it should not be thrown on the grass or box borders, for it will kill good and bad without distinction. It is claimed for this article, that where weeds have been once subdued by it, they will not appear again the same year. This may be true, but we would not throw away the hoe quite yet

SAVE THE BEST FLOWER SEEDS.—The same law holds good in cultivating flowers as in raising grain or other produce. Seeds from the most perfect specimens will be likely to give the finest blooms. In the season of flowering, the best single flowers should be marked, by tying a bit of ribbon to them, or in some other manner, and the seed carefully gathered, and labeled "Best." It is by continual selection of seed from the most perfect flowers, combined with care in cultivation, that all the choicest double varieties have been brought to their high excellence.

Green Houses for the People ...No. I.

EXPLANATIONS.

A **COLD GRAPERY** is a glass structure, in which grapes and other plants are protected, but are grown without artificial heat.

COLD FRAMES are simply low movable boxes, covered with glass, for the partial protection of various garden plants. No artificial heat is used.

AN **ORCHARD HOUSE** is similar to a cold grapery, usually on a larger scale, for growing peaches, pears, apples, cherries, apricots, plums indeed all kinds of fruit, under the protection of glass, but without artificial heat.

A **HOT-BED** is a bed of soil warmed by *bottom heat*, such as is produced by the fermentation of manure. It is usually covered with glass.

AN **ORANGERY**, is similar to an orchard house, but is devoted entirely to orange trees, and is provided with some simple means of heating to prevent freezing in cold weather.

A **GREEN-HOUSE** is a structure in which tender plants are sheltered and kept green, and usually in growth, during cold weather. See next page.

A **CONSERVATORY** differs little from a greenhouse, but it usually implies a glass house on a larger scale, designed mainly for *show*. The Chatsworth Conservatory in England is so large as to furnish a carriage drive, and extensive foot paths. The ornamental glass structures for plants, upon the sides of dwellings, are generally designated as conservatories. The term is applied to all sorts of structures for *conserving* (or protecting) plants.

A **STOVE**, or **HOT-HOUSE**, is a glass structure for the growth of exotic plants, especially those from hot climates, and is provided with apparatus to keep up an even tropical temperature throughout the year.

A **PALM HOUSE** is a hot-house devoted to the growth of palm trees only.

A **PINERY** is a hot-house devoted exclusively to the artificial growth of pine apples, and is supplied also with bottom heat.

FORCING HOUSES are glass houses in which any kind of plants are grown out of season by artificial heat, etc.

A **PROPAGATING HOUSE** is either a greenhouse, or a hot-house, which is devoted entirely to the multiplication of plants.

A "**CALCUTTA**" is a name given in England

to a structure designed for *forcing* the growth of pine apples only. It is similar to a pinery.

THE GREEN-HOUSE.

A letter before us says: "Many readers of the *Agriculturist*, ladies especially, who live in retired localities where there are few amusements, would be glad to cultivate their taste for flowers, and devote some time to the care of a green-house; but they are deterred from any attempt in this direction by their entire ignorance on the subject. . . ." The letter proposes a number of inquiries in regard to the least expense,

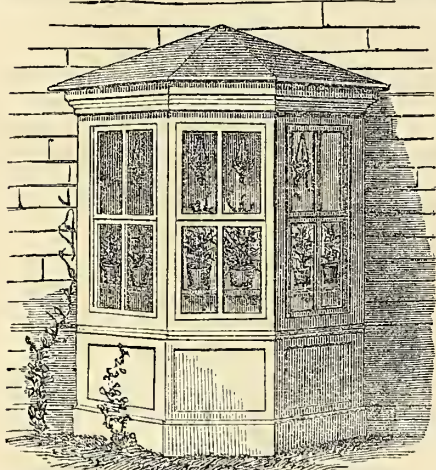


Fig. 1.—OUTSIDE VIEW OF A BAY WINDOW.

smallest dimensions, heating, etc., etc. The subject is very extensive, if taken up in all its details, and those interested in it should procure one or more works devoted entirely to the topic.* We will, however, offer a few hints which may be useful, and perhaps lead many persons to make a beginning at least. A very good green-house, on a small scale, may be put up at little expense. Success in the planning, and especially in the after care, depends mainly upon the taste, skill and constant attention of the owner.

The object of a green-house is not merely to protect tender plants from cold or frost, but to furnish a genial atmosphere that shall not only increase the growth and development of plants that are ordinarily cultivated in a Summer garden, but also render it practicable to grow many plants not adapted to out-door culture. The main requisites are: Plenty of *light* and plenty of *fresh air*, with a due degree of *warmth* and *moisture*. Any structure, no matter how simple, in which you can command these four requisites at all seasons, is a good green-house; any structure, no matter how costly or showy, is a failure, if these four requisites can not be secured.

The simplest form of a green-house is a well lighted room in a dwelling, uniformly warmed in cool weather by a stove, or by a basement furnace, and kept constantly supplied with moisture by frequent sprinkling, and with fresh air by ventilators or windows. The main objections to such a room are: the difficulty of keeping uniform heat and moisture night and day, and the fact that if light be admitted by windows on only one or two sides, the plants will tend to grow one-sided, as they always develop most rapidly towards the strongest light. Frequent turnings of the different sides of the plants to the light, will partially overcome the last named difficulty; while constant care and the use of steady burning fuel will measurably rem-

* We know of no very valuable book for popular use published here. Perhaps the best one is "Leuchar's Work," costing \$1.25. This, though in some respects objectionable, may well be procured and studied by all who contemplate even the smallest attempt a green-house.]

edy the first named. The syringe or sprinkler will help to overcome the lack of a moist atmosphere. With the inexperienced, the most common error is an excess of heat, especially at a time of year when most plants should be in a state of comparative rest. The main thing at all seasons is to have only so much heat as is required to keep out frost. The less *artificial* heat we have, the more perfect will be the growth and development of the plants. A simple cheap thermometer should always hang in every green-house, to mark the degree of heat. With attention to these general rules, it is not impracticable to have a green-house, or green-room, within many of the dwellings of our land. Perfection may not be secured; but, as in many other things, mediocrity is far better than nothing.

A "*Bay Window*," as it is commonly called, (figs. 1 and 2,) makes a good green-house on a small scale, if it is connected with a warm room, and is not on the north side of the house. It adds very greatly to the value of such a window, to cut it off from the inside room by glass doors, as shown in fig. 2. These enable one to readily admit warm air from the room, or to shut the plants off from an over-heated atmosphere, and at the same time to admit external air, without introducing an unpleasant current into the house. So also, the closing of these inner sashes enables one to readily secure a damp atmosphere around the plants. The floor boards of bay windows should incline a little downward towards some point where there are small holes to allow any surplus water to flow outside of the house. Such windows are easily managed; they cost but a trifle, and they are always beautiful and pleasant to look upon, both from within and from without. Let them be generally adopted, where larger structures are not practicable. By an error in making the

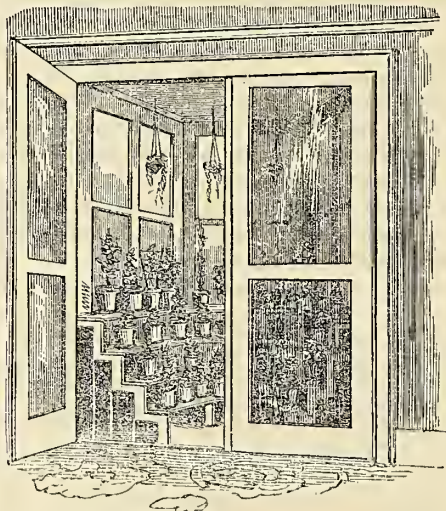


Fig. 2.—INSIDE VIEW OF A BAY WINDOW.

sketch, fig. 2, the plants are shown lowest at the inside. The higher plants would thus obstruct the sun's light. The shelves for pots should be lowest in front—on the outside—so as to have all the plants directly exposed to the sun.

Immediately connected with this part of our subject are the various glass cases for the table, or window bench, such as the "*Wardian Case*," the "*Ladies' plant Cases*," etc. For a full description of these, with several illustrations, see *Agriculturist*, Vol. 19, page 277, (Sept. 1860). Fig. 3, is a simple form made essentially as follows: The bottom is a wooden box, 5 to 6 inches deep, lined with zinc, with a hole and plug, to draw off surplus water. The corner frames are of wood, about two inches square, or propor-

tioned to the dimensions of the case, which may be of any size desired, from one foot up to half a dozen feet in length, and of proportionate width and height. The sides and top are covered with window glass set in sashes. A side door and an opening at the top to admit of ventilation when needed, complete the structure, except the painting inside and out, which may be of any color; green is usually preferable. Any carpenter can get up such a case, and it answers as a very good substitute for a diminutive green-house. The rules first given above, in regard

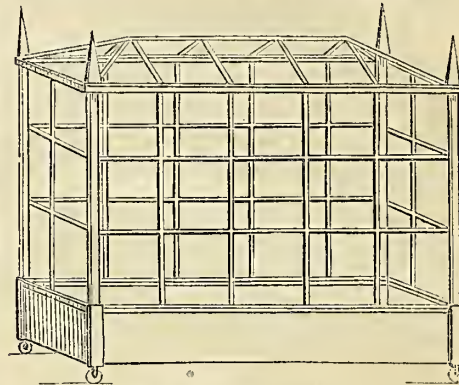


Fig. 3.—A PLANT CASE.

to the light, moisture, warmth, and ventilation, of course apply to all these structures for plants.

In another article, we shall describe green-houses proper, especially those of small cost, and adapted to the circumstances of the masses.

To Obtain and Preserve the Perfume of Flowers.

Did it ever occur to the reader to inquire whence and how are obtained the vast amount of odors or perfumery of flowers, that is used throughout this and other countries? A large portion of the perfumery used in this country, in Great Britain, and in other parts of Western Europe, is obtained from the Southern part of France, where seeds and flowers are raised by scores of tuns for this purpose. The odors are first absorbed by purified lard, and the perfumer afterwards extracts the scent by the use of spirits of wine (alcohol). A very few kinds of plants are used for this purpose, the great variety of perfumes being skillful combinations of a few. But every lady who has in the garden the Lily of the Valley, the Honeysuckle, the Myrtle, Clover Pink, Roses, or other odorous flowers, may be her own perfumer. All she needs is a little pure lard. Common lard may be purified by melting, and pouring it into water a few times. Dr. Piesse gives the following directions:

At the season when the flowers are in bloom, obtain 1 lb. of fine lard, melt it and strain it through a close hair sieve [or cloth], allowing the liquid fat as it falls from the sieve to drop into cold spring water; this operation granulates and washes the blood and membrane from it. In order to start with a perfectly inodorous grease, the process may be repeated three or four times, using a pinch of salt and a pinch of alum in each water; it is then to be washed five or six times in plain water; finally, remelt the fat, and cast it into a pan, to free it from adhering water. Now put the clarified fat into a glue-pot, and place it in such a position near the fire of the green-house, or elsewhere, that will keep it warm enough to be liquid; into the fat throw as many flowers as you can, and there let them remain for twenty-four hours. At this time strain the fat from the spent flowers, and

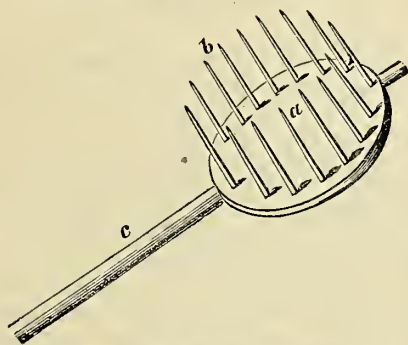
add fresh ones; repeat this operation for a week; we expect, at the last straining, the fat will have become very highly perfumed, and when cold may be justly termed *pomade à la héliotrope*. To turn this pomade into an extract fit for the handkerchief, all that has to be done is, to cut the perfumed fat into small pieces, drop it into a wide-mouthed bottle, and cover it with highly rectified spirit, in which it must remain for a week. When strained off the process will be completed.

Good Method of Planting Strawberries.

In transplanting, it is of importance to the immediate growth of the plant, that the roots be properly spread out, and not crowded together in the hole prepared to receive them. Mr. Tobias Martin, a nurseryman in Franklin Co., Pa., sends to the *American Agriculturist* a description of his method of accomplishing this, in planting out strawberries—it is equally applicable to other plants which have spreading, fibrous roots. The illustration shows the manner of operating quite plainly. In the center of the hole, a little cone of earth, (not

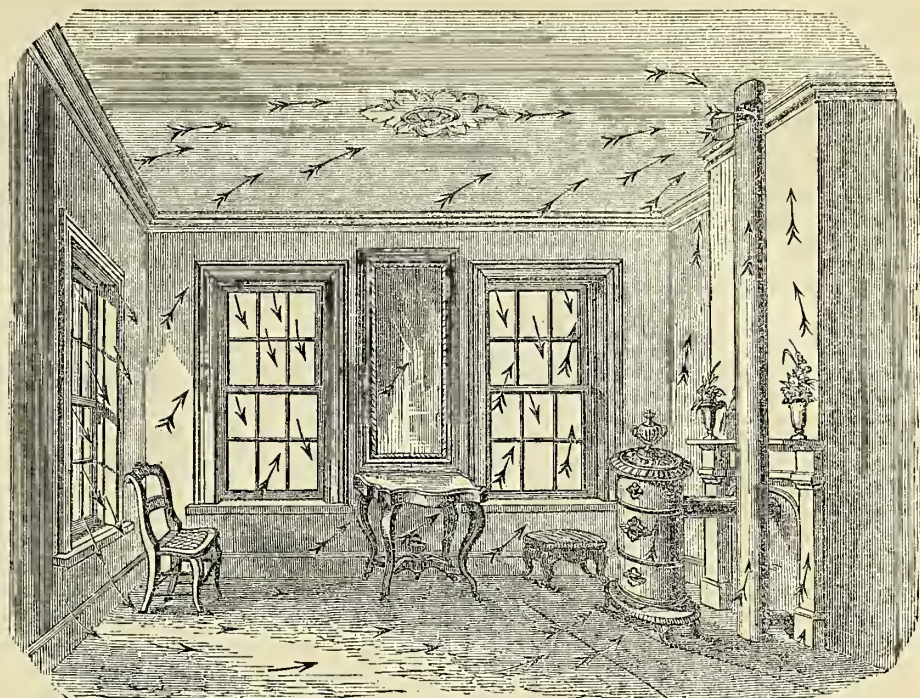


so regular or smooth as the one shown in the engraving,) is raised nearly level with the edges of the opening; the plant is set on the top of this, with the roots spread about its sides, and the hole filled with earth. It requires little additional trouble to transplant in this way, but it would seem to be worth the extra labor. We have practiced this method for a number of years, and have already advised our readers to adopt a similar plan.



Another Simple Fruit Gatherer.

In the last number of the *London Gardeners' Chronicle*, just at hand, we find a sketch of a home-made Fruit Gatherer which we re-engrave for the *Agriculturist*. It is very simple, and can be made in a few minutes by any person. We believe a similar implement is used in Germany for gathering apples, pears, and other large fruit. *a* is a round or oval piece of wood, say an inch thick, into which are inserted a number of round pegs, *b*, near enough together to catch the fruit, and far enough apart to admit the limbs or branches. Nailing the board to a pole, *c*, of any desired length, completes the apparatus. If the pegs are large, round, and smooth, they will not bruise the fruit. They will need to be five or six inches long to hold the fruit, and a curved handle would perhaps be preferable. Probably it would be better to slant the outer end of all the pegs a little inward. It is certainly preferable to shaking the fruit upon the ground, where it can not be hand-picked.



Simple, Cheap, Unpatented Mode of Ventilating or Purifying the air of a Room.

Take a glass jar or other vessel, fill it with water, and invert it, placing the mouth in a pail, or tub, or pan of water. With a tube blow air from the lungs under the mouth of the jar, so that it will rise and displace all the water. Slip a plate, or piece of glass with a wet paper on it, under the mouth of the jar and turn it right side up. Bend a wire in the form of a hook, and attach a small piece of candle to the turned up end. Light this, and removing the plate or glass a little, let the candle down into the air that has been caught from the lungs. The flame and even the burning wick will be extinguished as effectually as if it had been let down into water. Or drop a mouse into the jar, covering it at once, and the mouse will die almost as soon as if in water. This simple experiment any one can try with no other apparatus than a jar, and a large straw, or a tube of any kind. The experiment is important as showing that the air breathed from the lungs is so impure that it will not support life, nor even the burning of a candle or lamp.

In a room 12 or 14 feet square, and 8 or 9 feet high, three or four persons will soon breathe over all the air. More or less air is constantly admitted through cracks and crevices, but in a tight room warmed by a stove, the change of air is far from rapid. With the good old fashioned fire-place, having a wide-necked chimney, the change of air was more rapid, and the occupants of rooms so warmed were healthier and stronger than those dwelling in the modern, tight, stove heated rooms.

Mr. David Lyman, of Middlefield, Ct., informed us some years since that he had devised a cheap simple plan for ventilating close rooms, in which he had great faith: and now after four years' trial in his own house, and in the dwellings of several of his neighbors, he has become so thoroughly convinced of its utility, that he desires to throw it open to the public, untrammelled by any patent. Any tin or sheet-iron worker can make the required pipe. [The engraving here shown was made by Mr. Wm. Howland, 229 Broadway, N. Y., and duplicate copies can be had of Mr. Lyman by all editors desiring them,

at the mere cost of making the duplicate plate.]

The ventilator is essentially a tin or sheet iron pipe, open at the top and set against, or near the chimney, and connected with it at the bottom by an elbow joint or a side pipe. For a room occupied by three to six persons, he recommends a pipe 7 inches in diameter if round, or 5 by 10 inches if oval or flattened. For a larger number of occupants, he recommends an 8-inch round pipe, or better, an oval one 5½ by 11 inches. The cost varies from \$2½ to \$4, according to form, size, and length.

The action is represented by the arrows in the engraving. The cold air comes in through the windows, doors, or cracks, as indicated by the arrows not having feathered ends. Being heavy, it settles downward as shown by these arrows. It is warmed both by being breathed, and by coming in contact with the floor and furniture, when it rises upward as shown by the arrows with feathered ends. The rarified air in the upper part of a room, which has been rendered most impure by exhalations from the body and the lungs, is drawn off by the draft of the chimney, down through the pipe, and is carried away. The object of this arrangement is, to take off the air from the upper part of the room, and at the same time avoid spoiling the draft of the stove pipe by any opening above the entrance.—In rooms warmed by basement furnaces, where the pure warm air first rises to the top, before being used, the upright pipe is not needed, but simply an opening or short pipe at the bottom of the chimney flue.

Such is Mr. Lyman's plan, which he esteems of great utility, and claims that it has given the highest satisfaction in some forty dwellings where he has induced people to try it, or to let him put up one for them at his own expense. We must certainly give him credit for his unselfish efforts to induce people to use pure air, and we shall not call in question his belief that this is one of the best means of securing it.

PRESERVING EGGS.—W. R. Handy, Iron Co., Mo., writes to the *American Agriculturist* that eggs may be preserved fresh a whole year, as follows: Enclose as many eggs as convenient in a piece of mosquito netting or other thin cloth, plunge them in boiling water for twenty seconds,

then put them away in any cool place. This does not look plausible, but it may be easily tried with a few eggs. If it succeeds, of which Mr. H. is certain, the directions are valuable. He says all who find it successful, owe him a dollar, but he remits the payment on condition that they each obtain one new subscriber to the *Agriculturist*, to which we, of course, have not the least objection.

Care of an Aquarium.

Can the editor or any of the readers of the *American Agriculturist* inform me what I can do for prevention or cure of the green moss, or sediment, which accumulates on the sides and stone work of a fresh water Aquarium, and oblige a constant reader—perhaps many?

To this request, our friend and valued correspondent, R. A. WEST, Esq., replies as follows:

The green moss or sediment spoken of by your correspondent, is almost always the consequence of the *aquarium being placed in too strong a light*. When the tank is overstocked with animals, the water will become *cloudy*, opaque, and muddy. This condition of the water can only be remedied by increasing the amount of vegetation, or by reducing the number of animals, although it may be temporarily relieved by additional aeration—by syphoning the water off and pouring it back into the tank in a small stream from a considerable height. The impurity of the water, however, will return, so long as the consumption of the oxygen is greater than the supply—in other words, so long as the animals are in excess of the plants.

But the green moss which gathers on the glass sides of the tank and on the rocks, is a purely vegetable matter, and when it forms so rapidly as to give the water a green, opaque appearance, is the result of too much light, causing the confervæ to germinate and grow too rapidly. I have prevented it easily and totally, when I have not chosen to alter the situation of the tank, by covering the window panes with white paper, or by covering the sides of the aquarium most exposed to the light with the same material. This latter mode, however, somewhat mars the beauty of the aquarium. This excess of confervæ will not occur if the tank is placed in only a moderate light—say a light equal to that of the center of an ordinary sitting room.

But when this green moss becomes a *sediment*, the case is different. It is then a valuable acquisition to the aquarium, being itself a potent means of aeration. When the sediment fixes itself to the glass, however, it obscures the view of the inmates, as effectually as if it were still floating loosely in the water. But it is easily removed, and easily kept under. You have only to take a piece of shingle or other light board, a foot long and a couple of inches wide, tie a piece of sponge or muslin firmly at one end, and rub it up and down on the inside of the glass, and the deposit will be removed. By giving five minutes to this work every morning, the glass will be preserved clear and bright. When the sediment falls upon the rocks and pebbles, it should not be disturbed, but allowed to grow as freely as it will. It adds greatly to the beauty of the aquarium and immeasurably to the health of its inhabitants. My own impression is, that an aquarium, the rocks and pebbles in which are freely covered with this beautiful moss, would need no other plants, so freely is oxygen discharged by it.

If your readers will regard these hints, first as to the equalizing of the animal and vegetable life in the tank; second, as to the exclusion of

all excess of light; and third, as to the cleaning of the glass sides, they will find no difficulty in keeping their aquaria in perfect order for months without changing the water. I know that whereof I affirm. *I have done it often*. But let me add a fourth hint. Never disturb the rocks and pebbles, at least not until a good coating of green moss has settled upon them. Many aquaria are ruined by constant changes in the arrangement of the rocks. *Let them alone*, and your aquarium in a few months will be "a thing of beauty and a joy forever."

R. A. WEST.

Premiums for In-door Manufactures.

GOOD EXAMPLES.

While the various Agricultural and Horticultural Societies have been liberal in their premiums for farm and garden crops, stock, implements, machines, floral designs, and the fine arts, the household, with its various appurtenances and manufactures, is too frequently neglected. This fault might be remedied, to a certain extent, by allowing ladies to take a more active part, not only in the arrangement and fitting up of the hall where the exhibition is to be held, but by appointing them as some of the standing officers to assist in designating and classifying the articles and manufactures worthy of greater encouragement, particularly in the household economy.

The Clearfield, and the Macon Co. Agricultural Societies in Pennsylvania have set good examples. In their circulars for this year we find premiums announced for wheat, corn, and rye bread; for several kinds of cake, pies, jellies, ice cream, preserves of several named sorts, butter, cheese, fruit in cans or bottles, dried fruits, pickles, maple and sorghum syrup and sugar; for cured hams, dried beef, hard and soft soap, various domestic cloths, carpets, bed clothes, shawls, hose, mittens, yarn, thread, patch-work, worsted-work, crochet and embroidery, lamp mats, tidies, shirts, bonnets, slippers, coats, vests, pants, straw hats, wax flowers, etc.

A Short Lecture to Husbands.

To the Editor of the *American Agriculturist*.

The other day I accidentally overheard part of a conversation which interested me much, and set me to thinking, and finally to writing this article. "I wish the women could talk a little more sensibly about what is going on in the world," said the speaker. "When they meet, there's nothing discussed but neighborhood gossip, and the faults of servants, and how to make pickles and preserves. As for the topics that interest men, women are generally as ignorant of them as though they were deaf, dumb, and blind. Now there's my wife, good soul that she is, can keep house with any woman in the land. Every thing is neat and tidy at home, the cooking is first rate, the children are kept all straight, no torn frocks, nor shabby trowsers, but that's all. When I want some one to talk with about the war, or the prospects ahead, or anything more than household matters, I have to go to the store or the tavern, or to a neighbor's." I had no time to listen to the reply, but here is *my* answer, for his benefit and that of hundreds more who think, if they do not allow themselves to say the same things.

Shame on you Mr. Grumbler, for making your wife's devotion to your interests and comfort, the occasion of complaining. Why is she igno-

rant of the topics which interest you? While you are enjoying your newspaper, very likely she is trying to prepare your supper, keep the children from disturbing you, and at the same time to forget the headache which a hard day's ironing has brought on. In the evening when you hasten to the store or to a neighbor's to talk over the news, she has Johnny's stockings to mend, and Sarah's frock to patch, and the bread to mix, and fifty more things to look after, that never trouble you, because she takes the whole burden. So she goes on from day to day, with head and heart and hands full of household care. You know she refused to keep hired help because you could not afford it, preferring to sacrifice comfort, intelligence, health, and perhaps life itself in "keeping house," that you may be happy.

You did not think of all this.—Well now it is suggested, let me tell you how to remedy it, for I'm vexed enough to be very bold. You have opportunity for becoming informed on the topics of the day by conversation and reading: share the benefits with your wife. While she mends the stockings, read the newspaper to her. If you do not enjoy reading it a second time, then wait until she can listen before opening it. As you read, explain what is necessary to make it interesting. Try to be as entertaining as you would when visiting your neighbor, and very soon there will be a response that will make you glad to stay at home. If there be children in the family old enough to take part in the reading and conversation, they may join you, taking their turns in reading, and very soon you may have a charmed circle about you that will make home a paradise on earth, both to them and to yourself, as it was meant to be; and you will bless the day you received this lecture from

MARTHA.

The Three P's.

[The importance to parents of the hints given in the following extract from Dr. Hall's Journal of Health, is a sufficient excuse for making room for them here—to the exclusion of original articles from our own contributors. The italics are our own.—ED.]

At the close of the last century, a poor, awkward, uncouth boy entered London, but he was so long, lank, and ungainly, that he seemed fit only to be the drudge of a printing-office—run errands, bring water, sweep the floor, and the like. Already had poverty and the hardness of the world made him sour, unhopeful, and despondent. Under less discouragements, many a youth has abandoned himself to a thriftless life, having no higher aim than to live but for the day; or, worse still, has plunged headlong into all the extravagances and indulgences connected with thriftlessness and crime. But the boy had *vigorous health*; this imparted to him a mental vim, a moral power, which soon showed itself to his employer. He was *Prompt*, *Persevering*, and *Painstaking*; and with these three qualities, in spite of the fact that he was good at nothing, in every thing tolerable only, he made his patient way, step by step, to the "woolsack" (that is, the seat of the highest judge in England,) and lately died worth a million of dollars, among the most honored men of his nation and age, Lord Chief-Justice Campbell. In this case, vigorous health was a mine of wealth, a better fortune than if he had been the heir of many thousands. And certain is it, that the world would be a happier world, and the men in it would be happier, better, and greater, if one title of the time, and care, and study, which parents bestow on the accumula-

tion of money to leave to their children, *were devoted to the physical education and training necessary to secure a vigorous constitution.* Of any two young men starting on the race of life, one poor but healthy, the other rich and effeminate, other things being equal, the chances for usefulness, honor, and a well-remembered name, are manifold in favor of the former. Every man of the least observation and reflection knows this to be an indisputable truth. Yet, in view of the fact that vigorous health is a better and safer fortune than stocks and bonds, how many in each hundred parents who read this article will lay it down and resolve: "I will do more to leave to my children a vigorous constitution!"

Another element in the success of Lord Chief-Justice Campbell was, that his employer, seeing his dull nature, but noticing at the same time, that when he had any thing to do, he went at it promptly, and with great painstaking kept at it until the work in hand was done, although done painfully slow, he patted him on the shoulder, always spoke cheerfully to him, and with considerate consistency, threw little jobs in the way, by which the heavy boy might earn a little money, and be stimulated to greater activities. How many a youth at school, how many an apprentice in the shop, how many a child in the family, has gone out in the night of a blighted life, who, with humane encouragements, might have lived usefully and died famous, let the passionate teacher and master and parent inquire, *and do a little more patting on the shoulder.*

Cheap Food.

In these times especially, some lessons of economy may, or should be learned by all. At the usual market prices, beans are relatively cheaper than any other article of diet, corn excepted, perhaps. Beans combine the nourishment of both grain and meat, and they should enter more largely into consumption. Good housekeepers should learn how to cook them palatable. Any method is defective, that leaves the beans unbroken. Whether boiled or baked, or both, they should be so thoroughly cooked as to fall to pieces. Usually they are prepared for the table too dry.—But all the beans raised this year will probably be needed for army use, and command good prices. Corn should therefore be more largely resorted to. A bushel of corn yields nearly as much nourishment as a bushel of wheat, while the latter will sell for two or three times as much ready money. But there is a prejudice against corn, or corn meal, arising mainly from want of skill in preparing it. We have published many methods, and will continue to give others from time to time. What we now suggest is, that housekeepers who are disposed to be economical (and who are not?), should overhaul their recipe books, and the back numbers of the *Agriculturist* and other journals they may have preserved, and try the various methods of cooking corn and corn meal. When they hit upon any preparation that appears to give general satisfaction, make a note of it, and there will soon be found a variety of methods that may pretty nearly fill up a week, and still afford a daily change that will be agreeable. Let it be understood that you are studying economy, and many dishes that would be rejected in ordinary times will become acceptable to the heads of the family. We believe in the doctrine that children should be taught to always eat what their parents do, or rather what is set before them, *without questioning or wringing of the face.* This pampering of the ap-

petite, and allowing children to express their likes and dislikes, and be gratified in their whims, is the worst possible training—and the sure way to make them unhappy afterward. A child may be taught to always be happy, and to enjoy any meal that circumstances may place before him in all his future life.

We forgot to name dried peas among the cheap foods. Though not quite as nourishing as beans, they are very good and palatable when rightly cooked, and they afford good nutriment more cheaply than meat or wheat flour. They need to be soaked in cold water until quite soft, and can then be treated as when green; the addition of a little sugar will improve them, and give a taste more nearly like the green vegetable. Pea-soup is quite palatable, and is made by boiling the soaked peas in sufficient water for the quantity of soup required, then mash about one-third of them and stir them in the broth. Add butter and salt and pepper to suit the taste.

For the American Agriculturist.

Cooking Meat—Making Soup.

A writer in the June *Agriculturist*, in speaking of cooking corned beef 'scientifically,' says: "It should first be soaked in cold water until quite fresh enough to be eaten." Shade of Liebig, did you ever hear of such a thing? Now, in the first place, there is no need to have beef so very salt to save it; and in the second place, if it does happen to get too salt, why, freshen it in boiling water, not one degree less than 212°, except you are on the top of Mont Blanc, where water never gets higher than 180°.

We housekeepers always put *cold* water on meat intended for soup—or rather the fresh meat bones with which we generally make our soups. The cold water gradually brought to a boil, extracts all the gelatine or sweet portion of the meat, and leaves it in a soluble state in the water or liquid of which the soup is made. Soup meat takes about six hours boiling, or rather slow simmering on the top of the stove, the afternoon of the day before the soup is wanted, as it should stand over night and have the grease skimmed off in the morning before using. The foundation for the soup, if reduced enough, will then have assumed a jelly-like appearance: the bones and meat should be taken out when the six hours are up, and may be considered as of no further use. With us a favorite way of making soup at this season of the year is as follows: Having brought a gallon of "foundation" to the boil, we put in a handful of finely chopped parsley and sage, and ten minutes later a chopped onion and half a pint of peas, if we have any of the white variety in season, (for dark colored peas will discolor soup.) Add to these half a teacupful of rice, a teaspoonful of salt, and a dust of pepper, and in half an hour more you will have a dish to set before the king.

Let the reader remember that if cold water takes the salt out of meat, so will it take out much of the good.

M. J. STEPHENSON.

Carroll Co., Ill.

REMARKS.—We must disagree with Mrs. S. in one or two points. *Cold* water will not remove the juices of the meat, or but very slightly so, while it will take out the salt about as well as if hot. As the water is gradually heated so as to warm the fatty portions, it will also dissolve out the gelatine and other juices of the meat. On the contrary, putting the over-salted meat at once into boiling water, will tend to close the outside pores, or, at least, the juices will come out with the excess of salt, and must be thrown

away with it. Hence we still advise to freshen meat, when too salt, in cold water; then boil it in no more water than is needed, and save the pot-liquor which will really contain the most nutritious, digestible portions—if it is cooked as we recommend, that is, so as to prevent the escape of vapors. The skimming off of the grease when there is an excess, is desirable.—The addition of the peas is also good; but as for the sage and parsley, and especially the onions, why that depends upon whether you are sure that these several articles will just suit the taste of all who are to partake of it. Kings may all like onions; but we know of more than one American Sovereign who would not object to onion juice as an outside poultice, when needed, but who would be constitutionally opposed to having a forced inside application, or go without dinner.—ED.]

For the American Agriculturist.

A Word to Mothers.

The chilly Fall mornings are coming on, or rather are on us now, and in many of our farm houses there are no hands but mother's to tend baby, and dress the little ones, and get breakfast. There is perhaps no hour during the twenty-four so trying to a mother as this, and no wonder that baby is often neglected, and tosses around in his little night-gown till he gets cold feet and wind colic, and cries as if "pins and needles were sticking in him."

The only thing to be done then is to have out baby's winter stockings at once, put them on the first thing when you get up in the morning, also a flannel petticoat, and a long sleeved sacque, and then he can toss around at will until breakfast is over, and the mother can get time to wash and dress him.

This is now emphatically the season for croup, coughs, and colds, far more than mid-winter; the middle of the day is too warm for thick clothes, and the morning and evening too chilly for thin ones. No wonder that the Fall, on this account, is the harvest for fever and ague in the West. To every mother of a family, then, let me say, get out the winter clothes, put them on gradually as they are needed, and so secure health and comfort to your little ones.

M. J. STEPHENSON.

Carroll Co., Ill.

Good Green Corn Cake.

The following we have used the present year, and found it very good. Take eight ears of green corn, and either grate, or shave off the kernels and mash them fine. Mix with two beaten eggs, 1½ pints of sweet milk, a teacupful of salt, not quite a teacupful of sugar, and flour enough to make the whole into a batter as for griddle cakes. Bake in the oven, in buttered pans, or cook on a griddle as you would buckwheat cakes. To be eaten hot with butter, they are good without butter.

Tomato Corn Cakes—A Spanish Recipe.

A friend handed us the following which we have tried and like well: Take a dozen ears of green corn; split the rows of kernels lengthwise with a knife, then shave off and mash with a rolling pin; or grate off the kernels fine. Scald a dozen medium sized tomatoes and remove the skins. Beat three eggs well, and mix the whole with a pint of milk, and flour enough to make a batter. Add salt, pepper, and allspice to the taste. Fry on a griddle in the same manner as buckwheat cakes, avoiding excess of grease.



THE FIRST DAY AT SCHOOL.

(Engraved for the American Agriculturist.)

The Editor with his Young Readers

About the Picture.

Several things in the interesting engraving above will cause a smile, and there are also many items to think about. The center of attraction is the innocent looking little fellow who has just made his first appearance in the school-room, and who is undergoing one of the severest trials of early life. His neat dress, the careful manner in which his collar is put on, and his neck handkerchief tied, and his general appearance, show him to be a mother's pet. Poor fellow! he has been accustomed only to pleasant words and approving smiles, and he is utterly bewildered by his rude reception. But this experience, however painful, may make him more manly, by teaching him to rely upon himself, and not merely on the favor of those around him; and as he learns this lesson he will not be easily teased, and then others will seldom try to annoy him. He will soon find that out, for you see he does not cry, but bears the infliction well.

What a contrast between the faces of his tormentors and that of the meek little stranger. The tallest of the group looks bright and intelligent, but idle and reckless. Very likely he had been placed in the middle of the room, with the "dunce cap" on his head on account of some misbehavior. The one on the right appears like a hard-hearted boy who enjoys pain in others. The remainder of the group seem intent on having sport without thinking what the effect may be.

Observe the sympathizing looks of the boys who stand in order on the line where they were when the teacher was called out. How true it is that good qualities usually grow in clusters: those boys are attentive to their lessons, and possessed of kind

and generous feelings. There are many other points in the picture that we might refer to, but you will take more pleasure in yourselves finding and commenting upon them. Study each face, and try to read the characters of the different boys.

How a Boy Paid for the Agriculturist.

A lad living in Northampton Co., Pa., (whose father had left the farm for other business), was very anxious to continue the *Agriculturist*. His mother suggested a plan which he followed, and we give the result in his own words.... "I picked up all the bits of iron, brass, screws, nails, etc., that I could find, and now I have just taken them to the foundry, and received \$1.00—one dollar of which I here enclose for the next volume of the *Agriculturist*. I tried to get some new subscribers, but the people here are old-fashioned farmers, and you can't beat ideas into them, so here comes my lonesome name after many discouragements...." We predict that that boy will make a successful man, for such perseverance can scarcely fail in whatever line it is directed. Every one may not have the facilities for obtaining subscription money in the same way as this lad did, but almost every boy can do it in some way, and quite likely with less difficulty.

The "Know How."

An old negro who had been employed to butcher a calf, demanded a dollar for his services. "Why, you rascal," said the employer, "it's too much altogether, it did not take you half a day." "Yes, yes, massa," replied the negro, "me charge fifty cents for de work, and fifty cents for de *know how*." The amount was paid forthwith. The negro was right; the "*know how*" is just what is wanted in

every business, and it will always command a good price. Whatever trade or occupation you may be taught, keep in mind that every thing learned about it will be valuable. We have a friend who many years ago was employed as clerk in a wholesale cloth store. He knew little of the business when he commenced, but he at once procured and read all the books he could find relating to the manufacture and sale of cloth, so that in a few months he was better informed on the subject than most other salesmen in the establishment. This made his services more valuable, and he was rapidly advanced, until now he stands at the head of one of the first firms in this City. He had the "*know how*," and could command success.

A Luscious Peach—A Noble Boy.

Few of our readers will ever forget the interesting item we published last December, entitled "Bite Bigger, Billy." It has gone the rounds of the entire press of the country, though it has long since ceased to be credited to its true source. We have seen it already in several foreign journals, and we trust it has been and will be the means of inspiring higher impulses in many a boy's heart. Here is another somewhat similar incident, that occurred under our own observation as we chanced to stand at our door a few days since:

A man was carrying some peaches past the *Agriculturist* office. They were contained in baskets, covered with cloth, and slung over his shoulder, making a pretty heavy load. By some means one of the covers became loosened, and quite a number of the tempting looking peaches rolled down upon the side-walk, and the man went on without perceiving the loss. A poorly dressed little boy, about ten years old, who was

walking a little way behind, observed them, and immediately picked them up. We expected to see him put them in his pockets and run away; but we had mistaken his character. "Here! here!" he shouted to the man, who stopped, and the honest little fellow restored him his property. He was rewarded with one of the finest of the peaches, and went on his way rejoicing—but that was not all. Just then he met two of his companions, and immediately divided his peach with them. Was not that a noble hearted little fellow? We could but love him, ragged and dirty as he was. The part of the peach he had for his own portion, was sweetened by kindness, by honesty, and generosity, and was more luscious than the most costly fruit could have been, if obtained dishonestly.

THE WAR AND CORNS.—"How is your business now?" asked a gentleman of a "corn doctor" who was extracting a troublesome bunion for him. "Poor, very poor; the hardest times I've seen in many a year," was the reply. "Why, surely the war does not affect your business," said the gentleman. "Yes it does," rejoined the practitioner; "people wear their old boots and shoes now, and they don't get corns."

About the Treasury Notes, etc.

As a matter of special interest at this time, we present a wood engraving of the face of one of the new United States Treasury Notes, now being issued by the Government. The notes themselves are just the size of the one here shown, but they are engraved on steel, with much finer lines and more beautiful than we could print them even on the good paper used for the *Agriculturist*. Those issued by the Government are on the best bank note paper. In the notes themselves, the large ornamental C's behind the words United States, and also the figures 100 in each lower corner, are printed in green color. The four names on our engraved note are fictitious ones, put in to show how the notes look when complete. On the genuine notes and coupons the name of the U. S. Treasurer, or his Assistant, is inserted in the place of Stearns and Jocelyn, and the purchaser's name instead of Bennett. The back of the note is beautifully engraved with lathe-work, printed in green, with daily rate of interest, etc. Notes of four different denominations are made, viz: for \$50, \$100, \$1000, and \$5000. This one is for \$100. The annual interest is seven and three-tenths per cent, that is, 7 cents and 3 mills on the dollar, or 730 cents for \$100, which for 365 days is just 2 cents a day, or 1 cent a day for \$50. The interest on the first fifty million dollars is to be paid every six months, reckoning from the 19th day of August—the day on which the loan was given out. This interest is to be paid either at the Treasury Buildings at Washington, or at any one of the depositories of public money, at New-York, Philadelphia, Boston, Cincinnati, St. Louis, etc. To save the trouble of carrying a note to one of these paying offices, coupons are attached to the notes. A coupon on a note, or on a railroad or other bond, is something to be cut off. (It is pronounced koo-pung.) These notes run three years. At the end of the first six months, the first coupon is cut off, and carried or sent to a paying office, and exchanged for the interest it calls for, in gold. These coupons, as they become due, are just as good as bank bills, (better than many bills,) for they will command gold. They can therefore be sold to the nearest bank, for gold, and will doubtless be taken by merchants and all others just the same as money, so that no one will have to trouble himself to go or send to the Treasury for money. Any of our distant subscribers can send one of these notes or coupons, in payment for a club of subscribers, if he have one or can buy one from a neighbor. In short, both the note and the coupon will everywhere answer for money. The coupons are not good until about due. There are five coupons, or five half-yearly payments of interest. The sixth coupon will be the note itself, for the last payment of interest will be made when the note itself is paid at its maturity in three years. Any holder of these notes can, at any time, change them

for 20-year notes, which are more valuable where one wishes to put out money permanently at interest.

The notes grow more valuable daily, because the interest is all the while accumulating. If one of \$50 is bought to-day, (Sept. 17,) it costs \$50.30, because it has accumulated one cent a day interest since Aug. 19, which the holder will get back on the 19th of February. If bought or sold on Nov. 1st, it will then be worth \$50.73. It will thus be seen that these notes will be a very convenient form of holding money. They are money that draw interest every day they are held, which is not the case with bank bills or gold. Besides, these are otherwise just as good as gold, because they are to be paid in gold; while they are superior to bank bills, because they are secured by all the property of the country. If the government of our country could fail, nothing else would be of any value. So we see that these notes are the very best investments one can make, if money is to be put out on interest. The interest itself is over seven per cent, which is higher than most other safe investments pay.

But there is another even stronger reason why every body should buy what he can of these notes, even if it be but one of the smallest. The government is engaged in a war which concerns each of us, and upon the success of which depends any future value our homes and our possessions may have. Money is required to carry on the war—to buy guns, ammunition, ships, build forts, etc., and to clothe, feed, and pay the men who fight our battles for us. Usually, money for war purposes is borrowed of capitalists—much of it generally from other nations who are at peace and can spare it easily. In the present case, some of the leading aristocratic men of Great Britain who have long been jealous of the example of our great free country, are trying to prevent us from borrowing money abroad.

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Our government does not beg the favor of any money from them, but calls upon the people here to loan the money, and themselves receive the interest paid. We are glad this is done. Let us all take hold, and if one can not get enough to buy even a \$50 note, let two or three join together and take one, and let the lords and nobles over the water keep their money, only as they send it here to buy our wheat and corn. We have a government made, and controlled, and changed, by the people themselves; we, the people, are the government—every man having an equal voice. The great London Times may continue its denunciations, and its efforts to keep England and the rest of Europe from lending money on Treasury Notes. We have not asked them to do so, and shall not. The money we pay to carry on the war and the government expenses, is all expended again here. Those foreign people, who can only get two or three per cent a year for the money, will be very glad by and by to pay a premium for our seven per cent notes—if we choose to let them have any—when they find a great free government can take care of itself.

A Living Hippopotamus,

The first one ever brought to this country, we believe, is now to be seen at the American Museum, in this City. We had prepared an engraving and description of him, but have not room for it. Those who can do so, will, of course, take a look at the animal, as he is well worth seeing. And here we will add, that with all Mr. Barnum's reputation for humbug, he does certainly furnish a world of curious things—a collection that abundantly pays for a day's visit to the Museum, and the 15 or 25 cents admission fee.

The Brave Gander.

Since the war commenced it has become fashionable to dress boys in military costume. The Zouave dress, particularly, is very popular, and we often see boys just large enough to wear pantaloons, rigged out in this style, and with wooden gun and toy knapsack complete. A little friend of ours, six years old, was greatly elated when his mother clothed him in a complete Zouave suit. He paraded through the house, shouldered the broomstick, for he had no gun, and quite terrified his sisters by showing how he would fight the enemy if he had a chance. To hear him talk, one would suppose he never felt fear in all his life. Presently he left the house and went out to the barn-yard to practice the zouave drill among the pigs and chickens. He set them running in all directions by his furious charges, and was having fine sport, when he suddenly found warmer work than he had expected. In one corner of the yard was a goose sitting on her nest in a little pen which had been built for her. This he called Fort Montrie, and started to drive out the unsuspecting occupant; but no sooner had he commenced operations, than the old gander, who was standing sentinel near by, gave a defiant scream, and charged on him with mouth open and wings extended. Poor Charlie was utterly unprepared for this, and turned to execute a retreat. The gander, like a true general, followed up his advantage, seized Charlie's pantaloons behind, and gave him an unmerciful beating with his wings. His screams soon brought his mother and sisters to the rescue, though they could scarcely help him for laughing. Charlie was badly bruised, and thoroughly enred of his boastful spirit.

The Poor Dandy's Ease.

A dandy in Paris, who had more cunning than money, contrived the following plan for replenishing his purse. After managing to get an introduction to a wealthy young lady, he said: "Allow me to send you a bouquet of flowers by my black servant." He then retired to his room, dressed himself as a waiter, blacked his hands and face, and having purchased a handsome bouquet, carried it to the lady, with the respects of his master. The lady, highly pleased with the gift, presented the supposed servant with a gold coin, worth many times what the bouquet had cost, and thus the dandy realized enough to pay his week's board.

New Problems.

No. 23.—*Illustrated Rebus.* This is difficult enough to last a month, we think, but it is readable.



No. 24.—*Arithmetical Problem.*—Contributed to the *American Agriculturist* by Samuel J. Nichols, Racine Co., Wis. It is required to find the least number, which divided by 28, leaves 19 remainder, divided by 19, leaves 15 remainder, and divided by 15, leaves 11 remainder. Give the answer and the method of finding it.

Answers to Problems in September No.

No. 18.—*Illustrated Rebus.*—See page 281. Answer: "War turns things upside down, but some things need righting."

No. 21.—See page 282.—Answer: 301. The readiest solution was furnished by "Farmer's Boy," as follows: The answer must be a multiple of 2, 3, 4, 5, and 6, increased by 1. The least common multiple of these numbers is 60; but 61 will not contain 7 exactly, therefore the answer must be a multiple of 60, increased by 1, and by trial 5 times 60, increased by 1, or 301 is found to be the required number.

No. 22.—See page 282.—Answer: 630.

The following have sent in correct answers:

Joseph Badger, for No. 15; M. C. Woolman, 20; Myron G. Willard, 21, 22; "Pickwickians," 18; C. B. Harvey, 18, 22; E. W. Bolles, 22; Isaac T. McLain, 21, 22; R. Jennings Harris, 21, 22; Shadrach C. Bond, 21; Frank Fancher, 21, 22; J. D. Rider, 22; Isaac Oliver, 22; S. R. Kadie, 18; "Farmer's Boy," 21, 22; Samuel J. Nichols, 21, 22.

Agricultural Exhibitions for 1861.

[The following list gives the time and place of all the State and County Fairs yet to be held, that have been reported up to the date of going to press.]

STATE FAIRS.

Name.	Where held.	Date.
Oregon.....	Oregon City.....	Oct. 1-4
New Brunswick.....	Sussex.....	1-4

COUNTY FAIRS.

MAINE.		
Kennebec North.....	Waterville.....	Oct. 1-2
Androscoggin.....	Lewiston.....	1-3
Somerset West.....	North Anson.....	2-3
Hancock.....	Ellsworth.....	8-10
Oxford West.....	Fryeburg.....	8-10
Kennebec.....	Readfield.....	9-10

NEW-HAMPSHIRE.		
Hillsboro North.....	Ware.....	Oct. 1-2
Hillsboro South.....	Milford.....	9-10
Connecticut Valley.....	Charlestown.....	10-12

VERMONT.		
Windsor.....	Woodstock.....	Oct. 1-3
Rutland.....	Rutland.....	2-3
Windham.....	Newfane.....	2-3
Wilmington.....	Wilmington.....	8-

MASSACHUSETTS.		
Berkshire.....	Pittsfield.....	Oct. 1-
Bristol.....	Taunton.....	1-
Hampden.....	Springfield.....	1-3
Plymouth.....	Bridge water.....	3-4
Worcester South.....	Sturbridge.....	3-
Hampshire, Hampden and Franklin.....	Northampton.....	3-
Barnstable.....	Barnstable.....	8-
Worcester South East.....	Milford.....	8-
Nantucket.....	Nantucket.....	10-11
Hampshire.....	Amherst.....	10-
Martha's Vineyard.....	West Tisbury.....	15-

NEW-JERSEY.		
Burlington.....	Bridge ton.....	Oct. 1-2

PENNSYLVANIA.		
Monroe.....	Stroudsburg.....	Oct. 1-4
Crawford.....	Meadville.....	9-12
Clearfield.....	Clearfield.....	15-17
Columbia.....	Bloomsburg.....	17-19

CALIFORNIA.		
Alameda.....	Oakland.....	1-5
Humboldt.....	Hydesville.....	8-

NEW-YORK.

Columbia.....	Hudson.....	Oct. 1-3
Cayuga.....	Auburn.....	1-3
Albany.....	Albany.....	1-4
Oswego.....	Oswego Falls.....	2-4
Queens.....	Flushing.....	3-
Essex.....	Elizabethtown.....	3-4
Chenango Union.....	East Randolph.....	3-5
Montgomery.....	Fonda.....	5-9

TOWN.

Brockport.....	Brockport (Monroe Co.).....	Oct. 1-2
Cazenovia.....	Cazenovia.....	1-2
Canaseraga.....	Catsville.....	2-4
Union.....	Palmyra.....	2-4
Little Falls.....	Little Falls.....	2-4
Skaneateles.....	Skaneateles.....	8-9
Wilson.....	Wilson (Niagara Co.).....	9-10
Galen.....	Clyde.....	10-11

OREGON.

Benton.....	Corvallis.....	Oct. 3-4
Lane.....	Engene City.....	9-10
Marion.....	Salem.....	11-12
Washington.....	Hillsborough.....	16-17
Multnomah.....	Portland.....	23-24

OHIO.

Richland.....	Mansfield.....	Oct. 1-3
Cuyahoga.....	Cleveland.....	1-3
Summit.....	Akron.....	1-3
Mahoning.....	Canfield.....	1-3
Coshocton.....	Coshocton.....	1-3
Carroll.....	Carrollton.....	1-3
Wayne.....	Wooster.....	1-3
Shelby.....	Sidney.....	1-4
Clark.....	Springfield.....	1-4
Champaign.....	Urbana.....	1-4
Butler.....	Hamilton.....	1-4
Sandusky.....	Fremont.....	2-4
Seneca.....	Tiffin.....	2-4
Hardin.....	Kenton.....	2-4
Defiance.....	Defiance.....	2-4
Stark.....	Canton.....	2-4
Harrison.....	Caliz.....	2-4
Huron.....	Norwalk.....	2-4
Morrow.....	Mount Gilead.....	2-4
Van Wert.....	Van Wert.....	3-4
Greene.....	Xenia.....	8-10
Ashland.....	Ashland.....	9-11
Guernsey.....	Cambridge.....	10-11

MICHIGAN.

Macomb.....	Romeo.....	Oct. 2-4
Ionia.....	Ionia.....	2-4
Kent.....	Grand Rapids.....	2-4
Branch.....	Coldwater.....	2-4
Union.....	Ypsilanti.....	2-4
Horse Show.....	Kalamazoo.....	2-4
Calhoun.....	Marshall.....	8-10
Shiawassee.....	Owosso.....	9-11
Oakland.....	Pontiac.....	9-11
Livingston.....	Howell.....	9-11
Sanilac.....	Lexington.....	10-11

WISCONSIN.

Green Lake.....	Markesan.....	Oct. 2-3
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INDIANA.

Posey.....	New Harmony.....	Oct. 1-5
Union (Johnson Co.).....	Edinburgh.....	1-5

KENTUCKY.

Breckenridge.....	Cloverport.....	Oct. 1-5
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IOWA.

Montgomery.....	Frankfort.....	Oct. 1-
Marion.....	Knoxville.....	1-3
Benton.....	Vinton.....	2-3
Guthrie.....	Guthrie Center.....	2-3
Jones.....	Anamosa.....	2-4
Bremer.....	Waverley.....	3-4
Wayne.....	Corydon.....	4-5
Davis.....	Bloomfield.....	4-5
Dubuque.....	Dubuque.....	4-6
Johnson.....	Iowa City.....	5-6
Harrison.....	Magnolia.....	9-10
Tama.....	Keosauqua.....	9-10
Van Buren.....	Keosauqua.....	10-11
Marshall.....	Marshall.....	11-12
Crawford.....	Dennison.....	12-13
Hamilton.....	Webster City.....	17-18

ILLINOIS.

Sangamon.....	Springfield.....	Oct. 1-2
Clinton.....	Carlyle.....	1-3
Knox.....	Knoxville.....	1-4
Grundy.....	Morris.....	1-4
Madison.....	Edwardsville.....	1-4
Putnam.....	Heunepin.....	1-4
Vermilion.....	Callin.....	1-5
Schuyler.....	Rushville.....	2-
Lee.....	Amboy.....	8-11
Monroe.....	Waterloo.....	15-17

MINNESOTA.

Faribault.....	Blue Earth City.....	Oct. 2-3
Freeborn.....	Albert Lea.....	3-4

CANADA WEST.

Lanark & Renfrew.....	Perth.....	Oct. 1-
Fullart and Logan.....	Mitchel.....	2-
Blenheim.....	Drumbo.....	4-
Durham West.....	Newcastle.....	4-
Toronto.....	Toronto.....	7-10
Lanark.....	Lanark.....	8-
Hay.....	Rodgerville.....	9-
South Wellington.....	Guelph.....	9-
Pickering.....	Pickering.....	16

CANADA EAST.

Montreal.....	St. Alexis.....	Oct. 2-
Ottawa.....	Alymer.....	3-
Pontiac.....	Chateaufort.....	4-
Montunorency.....	Chateau Richer.....	15-
Quebec.....	Ste. Fove.....	15-

NEW PREMIUM LIST, For 1862---Vol. XXI.

Or Pay to Voluntary Agents who will attend to collecting names of new and old subscribers to the *Agriculturist*, and forwarding them to the Office.

Experience has proved that it is a benefit to the subscribers themselves, as well as to the Publisher, to have an Agent at every Post Office, to attend to collecting the names and subscriptions of old subscribers, and to present the advantages of the paper to those not yet acquainted with it. But to employ and commission a Special Agent in every neighborhood throughout the country, is out of the question. We therefore offer certain good articles, the value proportioned to the number of names sent in, and leave them open to every person disposed to attend to the business, in the locality where he may be known to be a reliable man. The pay offered for a year to come is very large, but perhaps none too much so for the times. By giving the articles offered we can make the pay much larger than if in money, because we have facilities for getting these articles at a low rate. Besides, the advertising thus given to the manufacturers, induces them to bear a considerable portion of the expense on the articles we need for premiums.

In selecting articles for premiums, we have aimed to get such as are useful, and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made, or second-hand things, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

Table of Premiums for 1862.

Names of Premium Articles.	Price of Premiums at \$1 each.	Names at 50 cts. each.	Names at 25 cts. each.
1—Clothes Wringer, No. 1.....	\$1.00	13	27
2—Clothes Wringer, No. 2.....	\$1.50	18	37
3—Clothes Wringer, No. 3.....	\$2.00	23	45
4—Sewing Machine, (Wheeler & Wilson).....	\$35.00	90	130
5—Sewing Machine, (Wilcox & Gibbs).....	\$35.00	69	98
6—Aneroid Barometer.....	\$7.50	19	44
7—Hydropult.....	\$12.00	30	48
8—Five Octave Melodeon (best).....	\$15.00	125	237
9—4½ Octave Melodeon (best).....	\$10.00	104	182
10—Four Octave Melodeon (best).....	\$15.00	90	130
11—New Cyclopaedia, 16 volumes.....	\$48.00	96	140
12—Worcester's Unabridged Dictionary.....	\$7.50	17	40
13—Five back Volumes <i>Agriculturist</i> , p.p.....	\$5.60	16	30
14—Four do do do do.....	\$4.48	13	25
15—Three do do do do.....	\$3.36	10	20
16—Two do do do do.....	\$2.24	10	20
17—One do do do do.....	\$1.12	10	20
18—Winsor & Newton's Paints.....	\$2.50	10	20
19—Osborn & Hodgkinson's Paints.....	\$1.50	15	30
20—Hand Corn Sheller (best).....	\$6.50	21	40
21—Straw and Hay Cutter (best).....	\$8.00	24	43
22—Best Subsoil Plow (2-horse).....	\$8.00	24	43
23—Various Books—See terms below.....			

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bills, needed by canvassers, will be freely furnished.

Only one premium can be paid on the same subscriber.

We make no distinction between new and old subscribers, but it is expected that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

The offer of extra numbers to new subscribers received now, makes it practicable to begin collecting names at once. Indeed, these numbers are an extra inducement.

Every person collecting names for premiums, should send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent—one of them marked at the top "For Premiums," and also with the name of the sender.

The premiums are offered for subscribers for Volume XXI (1862), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any club is made up—if duplicate lists are sent.

Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this journal to

their friends and neighbors, and urge them to take and read it. It will continue to be independent, outspoken, and reliable, the special friend, advocate, and promoter of the farmer's interests, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in the next Volume, than in any preceding one. Onward, onward, is our motto.

DESCRIPTION OF THE PREMIUMS.

Premiums. 1, 2, 3—Wringing Machine.

We place this first, for it is nearly new, and one of the most useful articles for every family. We had one of the first made, and have used it over a year with the highest satisfaction. It completely does away with the hard straining work required to wring out garments by hand. It does not twist and break the fibres of the clothes, but simply presses them between two elastic India-rubber rollers, which are moved by a crank, and whether large or small pieces, they come out drier than when wrung by hand. The saving to garments would soon pay the cost of the implement, to say nothing of the saving of woman's labor. The machine is set upon the side of any tub; the garments drop out into a basket. A child can quickly wring out a tub full of clothes—They are of three sizes.—No. 2, costing \$7.50, is just the thing for common family use. This we present to any one sending us 18 subscribers for the *Agriculturist*, at \$1 each, (or 37 at the lowest club price of 80 cents.)—No. 1, costing \$5, will answer very well when No. 2 can not be afforded, but No. 2 is preferable. We will present No. 1 to any one sending 13 subscribers at \$1 each, (or 25 at 80 cents.)—No. 3, costing \$10, is adapted to larger families and Hotels. We will present it for 23 subscribers at \$1 each, (or 48 at 80 cts. each.)—We are glad to be able to present this implement as a premium on such liberal terms. One or more clubs for a No. 2 might be made up in almost every neighborhood.

Premium No. 4—Sewing Machine.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person sending them to Wheeler & Wilson's best \$45 Sewing Machine, (including Hemmer), new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by nearly four years' use in our own family, in connection with other machines. We want no better.—The prolongation of life, the saving of health and strength to our females, and the better physical vigor thus secured to the next generation, render the Sewing Machine one of the most desirable additions to the household.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using go with each machine.

Premium No. 5—Sewing Machine.

69 Subscribers at \$1 each, (or 98 at 80 cents each,) will entitle the person procuring them to Wilcox & Gibbs' \$35 Sewing Machines, including a set of Hemmers. This is the best machine of its kind, (sewing with one thread,) and has several points superior to other machines. It is neat, well made, simple in its operation; and having tested one in our own family for more than a year, we think highly of it, and can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of Hemmers, because those used with this machine are very simple and effective, and should go with every machine sent out.) The machines given as premiums, will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium No. 6—Barometer.

19 Subscribers at \$1 each, (or 44 at 80 cents each,) will entitle the person getting up the club to one of Kendall's Aneroid Barometers, (Price \$7.50.) This is a good, portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. We have had one in use for nearly two years, and find it not only accurate, but an admirable weather prophet. Scarcely a rain storm or gale of wind has occurred, that has not been heralded by our barometer. Each instrument is packed in a neat leather case, 6 inches square, and 4 inches deep, and this, surrounded by cotton, is enclosed in a wooden box, ready to be carried anywhere by express or otherwise.

Premium No. 7—Hydropult.

30 Subscribers at \$1 each, (or 48 at 80 cts. each,) will entitle the person making up the club to the Hydropult, (Price \$12,) a very useful hand implement for carrying instantly to any desired point, to throw water from a pail, tub, cistern, or other receptacle, for extinguishing fires, watering plants, washing carriages, etc., etc. A stream can be thrown up to the third story windows. It is supplied with jet pipe and rose or sprinkler; is made of brass, and is durable. It weighs only 8 lbs., and can be packed in small compass to go by express or otherwise.

Premium No. 8—Melodeon.

125 Subscribers at \$1 each, (or 237 at 80 cents each,) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$75 Melodeons (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, price, etc., of these instruments can be learned particularly, by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an in-

strument thus secured for a church or school-room. This was done in several instances the past year.

Premium No. 9—Melodeon.

104 Subscribers at \$1 each, (or 182 at 80 cents each,) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$60 Melodeons (4½ octaves.) See No. 8.

Premium No. 10—Melodeon.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$45 Melodeons (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium No. 11—New Cyclopaedia.

95 Subscribers at \$1 each, (or 140 at 80 cents each,) will entitle the person getting up the club to a set of Appleton's New American Cyclopaedia, now in course of publication, consisting of sixteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining four will be furnished as fast as issued. The original design of this work was 15 volumes, but it is found that the immense mass of matter will require 16 large volumes. The work is sold at \$3 per volume, or \$18 for the set. To no better purpose could any one devote the coming Fall and Winter evenings than to raising the club of subscribers required to secure this most valuable work for himself and family.

Premium No. 12—Best Dictionary.

18 Subscribers at \$1 each, (or 40 at 80 cts. each,) will entitle the person getting up the club to a copy of the large *Pictorial Unabridged Edition of Worcester's Dictionary*, (Price \$7.50.) This now stands confessedly the most valuable Standard Dictionary published. It weighs nearly 10 lbs.; is 12 inches long, 10 inches wide, nearly 4 inches thick, and contains 1534 pages of 8 columns each, giving the spelling and pronunciation, with full explanations, of every word in the English Language, and as a source of general information on all subjects, stands next to the Cyclopaedia. The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country. The United States Express Company have kindly agreed to deliver the book at very moderate rates to any part of the country where their lines extend. It can also go by mail to any place within 3,000 miles for \$1.60, prepaid postage. Except to remote points, the expense will be much less by Express. (Persons living off from express lines, can usually have it delivered to some person on the line, and send for it at their convenience.)

Premiums Nos. 13 to 17—Back Volumes.

These premiums (13 to 17,) will enable any one to secure the previous excellent volumes of the *American Agriculturist*, as far back as Volume XVI. We have stereotype plates and can print any number desired of the English Volumes 16, 17, 18, 19, and 20, and of the German Volumes 18, 19, and 20. These will be sent in clean, new numbers, each volume by itself, with index complete, and be forwarded post-paid. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired. They will be presented as in the table above, viz: For 16 Subscribers at \$1 each, (or 30 at 80 cents each,) we will present five volumes.—For 13 Subscribers at \$1 each, or 26 at 80 cents each, four volumes.—For 10 Subscribers at \$1 each, (or 20 at 80 cents each,) three volumes.—For 15 Subscribers at 80 cents each, two volumes.—For 10 Subscribers at 80 cents each, one volume.—Let every one selecting these premiums be careful to name just which back volumes are desired.

Premium No. 18—Paints.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of Winsor & Newton's Water Color Paints—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3,000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send \$1 cents for extra postage above the 6 cents per ounce which we pay.)

Premium No. 19—Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of Osborn & Hodgkinson's Water Color Paints, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium No. 20—Corn Sheller.

21 Subscribers at \$1 each, (or 40 at 80 cents each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers. (Price \$6.50.) This is a convenient, useful implement, very frequently called for. We give the best implement to be obtained for the price.

Premium No. 21—Hay Cutter.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. This is a useful implement, needed wherever horses and cows are kept.

Premium No. 22—Subsoil Plow.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to the best \$8 Subsoil Plow (two-horse), a very effective and desirable implement.

Premium No. 23—Good Books.

Here is an opportunity to get a good library at little expense. Any person getting up a club of 16 or more names

may choose any desired Books from the list advertised on page 286, to the amount of 12½ cents for each name forwarded at 80 cents, (or 33½ cents for each name sent at \$1.) and the books will be delivered to the recipient free of all expense for postage. Persons making up a club for any of the preceding premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE.
New-York, Thursday Morning, Sept. 19, 1861.

*. The materials for this review are furnished specially for the *Agriculturist* by a reliable man of long experience, who spends the whole of each day in the markets, watching the transactions and collecting information, and we flatter ourselves that our report is one of the most correct anywhere published.

The following tables show at a glance the aggregate amount of business transacted in the New-York Markets, for a month previous to this date, and also a comparison with the previous month.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
27 days this month	479,000	3,401,000	3,605,000	45,150	65,925	398,969
26 days last month	325,000	1,784,000	2,434,000	136,247	114,700	449,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
27 days this month	533,812	5,473,125	4,439,250	47,137	6,300	None.
26 days last month	460,000	3,523,000	3,561,000	165,500	None.	

The figures in the above tables indicate a most remarkable increase in the movement of Breadstuffs from the interior, as well as in the sales in this city. We do not remember to have recorded in the *Agriculturist* so heavy a business for a single month. Indeed, the receipts and sales here during the past 27 days, are undoubtedly the largest reported for any other similar period. Reckoning Flour at the customary rate of 5 bushels of wheat to the bbl., we find an increase in the receipts, equal to 3,372,857 bushels; and an increase in the sales equal to 3,075,372 bushels as compared with the receipts and sales of the preceding month. And as a further indication of the state of the market, we may add that still heavier sales could have been effected, if the supplies had equaled the wants of buyers. But an unfortunate break in the Erie Canal interrupted navigation for a short time, and curtailed the receipts accordingly. At present, the canals, railroads, and river-vessels, are taxed to their utmost capacity in bringing forward Produce from the interior, and yet there is a daily complaint of deficient supplies in this market. Especially is this difficulty experienced in the execution of foreign orders. European Shippers prefer "extra State" and "round hoop extra Ohio" Flour to all other brands; and of such grades the mills, though working constantly, have been apparently unable to make enough to meet the demand. The supplies of sound lots of Grain, which suit export buyers, have also been inadequate. There has likewise been a scarcity of vessels in port, and rates on ocean freights have ruled high; all of which circumstances have tended to embarrass merchants having foreign orders to fill. In canvassing these very important, and so far as concerns the most vital agricultural interests of the country, very encouraging facts, it could not be forgotten that the vast business in Breadstuffs now being transacted, is almost wholly independent of speculation—being the result of the legitimate wants of buyers, who are purchasing on English, French, Spanish and German account, and to make good the great deficiency in the crops in most parts of Western and Central Europe. Moreover, from present indications there is no doubt whatever that these purchases must continue to be made in this market, on a pretty large scale, for months to come. Private letters from Europe all agree in this—and that our market, as furnishing the cheapest supplies, must be relied on mainly if not exclusively. Canada has a considerable surplus of food, but the capital to move it seems to be utterly lacking. Montreal houses, which have hitherto been the principal buyers and shippers of Grain, sustained enormous losses on their Winter and Spring purchases, and just now are either unable or unwilling to make any advances, so as to empower the farmers to get their produce to market. In the Northern States there is a combination of circumstances such as perhaps never before occurred; there is a surplus of grain, there is an unusual foreign demand, and there is an extraordinary abundance of money to move the crops. Our farmers have had bad seasons and financial troubles to contend with for years past; the tide is now evidently turned, and this, too, right in the midst of a great civil war. It would be needless to say with how much pleasure the present Review is written—the *Agriculturist* is too closely identified with, and has too long labored for the promotion of the cultivating interests of the country, to be otherwise than exultant over the present features of the markets. The advance in the prices of Flour and Corn as indicated in the tables below, is scarcely less encouraging than the increase in the receipts and sales. We are called on to notice a further advance of 3¼¢ per lb. in the market price of Cot-

ton, with less activity, however, and a heavy feeling towards the close. Rice has slightly improved, with a fair inquiry. Tobacco has been in good request, at very firm rates. Hay has been more sought after, for City and Government use, and has advanced. Hops have been more freely offered at declining prices, yet sales have been moderate. Wool of low and medium grades has been in brisk demand for manufacturing purposes, and having been in light supply, has been quoted dearer. It is now quite evident that wool-growers will find a ready market for their stocks of Wool, and that, too, at more remunerative rates than could have been anticipated earlier in the season. The manufacturers are working vigorously on goods for the vast armies collected and collecting, and wool must be had at all hazards. It is believed that the consumption will be very large this year. It is known that a well-paid soldier will spend more money for clothing than a day-laborer, whether the latter be employed in country or city. And the families of soldiers will have more ready money to spare, and will want more costly apparel than customary. The Groceries and Provision markets exhibit more activity. The changes in other branches of trade have not been very important. The table of current prices, below, shows the changes in prices at a glance.

CURRENT WHOLESALE PRICES.

	Aug. 19.	Sept. 19.
Flour—Super to Extra State	\$4.45 @ 4.90	\$4.75 @ 5.45
Superfine Western	4.45 @ 4.55	4.70 @ 4.90
Extra Western	4.40 @ 4.50	4.70 @ 4.75
Flour to Extra Common	5.00 @ 7.00	5.10 @ 6.75
Super to Extra Southern	5.20 @ 9.00	5.20 @ 8.50
Rye Flour—Fine and Super.	2.25 @ 3.00	2.25 @ 3.50
Corn Meal	2.70 @ 3.20	2.75 @ 3.50
Wheat—Canada White	1.80 @ 1.35	1.75 @ 1.35
Western White	1.30 @ 1.40	1.30 @ 1.35
Southern White	1.35 @ 1.40	1.30 @ 1.31
All kinds of Red	1.40 @ 1.30	1.35 @ 1.30
Corn—Yellow	51 @ 53	55 @ 56
White	52 @ 56	56 @ 58
Mixed	43 @ 59	50 @ 56
Oats—Western	32½ @ 33½	33 @ 35½
State	33 @ 34	34 @ 35
Rye	50 @ 61	63 @ 70
Barley	20 nominal	65 @ 75
Hay, in bales, per 100 lbs.	40 @ 65	50 @ 75
Cotton—Middlings, per lb.	18 @ 18½	21½ @ 22
Rice, per 100 lbs.	6.00 @ 7.00	6.25 @ 7.00
Hops, crop of 1861, per lb.	25 @ 30	18 @ 24
Feathers, Live Geese, p. lb.	30 @ 38	30 @ 35
Seed—Clover, per lb.	Nominal	8½ @ 8½
Timothy, per bushel	do.	2.00 @ 2.37½
Sugar—Brown, per lb.	5½ @ 8	5½ @ 9
Molasses, New-Orleans, p. gal.	40 @ 55	40 @ 55
Coffee, Rio, per lb.	12½ @ 15	13½ @ 15½
Tobacco—Kentucky &c, p. lb.	5 @ 17	6 @ 15
Seed Leaf, per lb.	5 @ 26	5 @ 20
Wool—Domestic fleece, p. lb.	25 @ 46	28 @ 40
Wool, pulled, per lb.	20 @ 37	27½ @ 37½
Alfalfa, per lb.	8 @ 8½	8 @ 8½
Onion, per ton	29.00 @ 35.50	30.00 @ 38.00
Pork—New Mess, per bbl.	10.00 @ 15.00	11.50 @ 15.00
Prime, new, per bbl.	10.00 @ 11.25	9.75 @ 10.00
Beef—Repacked mess	9.25 @ 11.25	9.75 @ 11.50
Lard, in bbls., per lb.	8 @ 9½	8 @ 9½
Butter—Western, per lb.	7 @ 11	8 @ 11
State, per lb.	8 @ 11	8½ @ 11
Eggs—Fresh, per dozen	10 @ 12	12 @ 12½
Poultry—Fowls, per lb.	10 @ 11	9 @ 10
Chickens, per pair	31 @ 50	31 @ 50
Geese, per pair	1.25 @ 1.50	1.25 @ 1.50
Ducks, per pair	38 @ 50	38 @ 50
Turkeys, per lb.	9 @ 10	9 @ 10
Pied Pigeons, per doz.	88 @ 1.00	62 @ 75
Woodcock, per pair	50 @ 62	50 @ 62
Partridges, per pair	50 @ 62	50 @ 62
Dried Apples, per lb.	4 @ 4½	4½ @ 5
Dried Peaches, per lb., peeled	10 @ 12	10 @ 12
Dried Cherries, pitted, per lb.	10 @ 11	10 @ 11
Dried Raspberries, per lb.	10 @ 11	11 @ 12
Potatoes—Greens, p. bbl.	1.75 @ 2.50	1.50 @ 2.00
June, new, p. bbl.	1.50 @ 1.65	1.50 @ 1.75
Peachblows, per bbl.	1.50 @ 2.50	1.50 @ 1.75
Sweet Delaware, per bbl.	8.00 @ 3.50	8.00 @ 3.50
Onions—Red, per bbl.	1.00 @ 1.25	1.00 @ 1.25
White, per bbl.	1.25 @ 1.75	1.25 @ 1.75
Turnips—Rutabaga, per bbl.	1.25 @ 1.75	1.25 @ 1.75
Squash—Marrow, per bbl.	1.00 @ 1.62	1.00 @ 1.62
Winter Melons, per 100	20.00 @ 35.00	8.00 @ 12.00
Netted Muskmelons, p. bbl.	2.00 @ 4.00	2.00 @ 2.25
Tomatoes, per bushel	31 @ 62	25 @ 37
Apples—Common, per bbl.	1.50 @ 2.00	1.50 @ 2.00
Apples—good, per bbl.	3.00 @ 4.00	2.00 @ 3.00
Peaches, per basket	1.50 @ 2.50	1.75 @ 2.00
Grapes—Isabella, per lb.	6 @ 10	6 @ 10

Exports of Breadstuffs from New-York, from the 1st of January to the 18th of September

	1860.	1861.
Wheat Flour, bbls.	1,054,276	1,862,130
Rye Flour, bbls.	6,249	8,624
Corn Meal, bbls.	69,032	80,357
Wheat, bushels.	5,258,544	15,316,257
Corn, bushels.	2,074,114	7,966,653
Rye, bushels.	100	398,763
Barley, bushels.	8,820	1,000
Oats, bushels.	101,224	145,282

Total Exports from United States for successive Years, ending Sept. 1st.

Year ending	Flour, Bbls.	Wheat, Bush.	Corn, Bush.
Sept. 1, 1861	2,703,790	29,005,866	11,806,179
Sept. 1, 1860	766,399	5,116,748	2,241,215
Sept. 1, 1859	157,845	496,855	367,532
Sept. 1, 1858	1,598,530	6,916,071	3,334,650
Sept. 1, 1857	1,332,944	10,355,054	5,289,868
Sept. 1, 1856	2,389,673	10,566,485	7,013,244
Sept. 1, 1855	182,972	329,399	7,047,566
Tot. for 7 years	9,132,153	62,816,478	37,100,254
Average per y'r.	1,304,593	8,973,763	5,300,036
Amount past y'r.	2,703,790	29,005,866	11,806,179

Reducing the Flour to Wheat, the total exports for seven years past were equivalent to 108,477,243 bushels of Wheat, or an average of 15,496,749 bushels a year. The Flour and Wheat exported for the year ending Sept. 1,

1861, were alone equivalent to 42,524,816 bushels of Wheat, and adding the Corn exported, the total export of Wheat and Corn (exclusive of Corn Meal) amounted to 54,330,995 bushels for the year past. The enormous exports during the month of September, if added, would raise the year's exports to still larger figures.

Exports of Breadstuffs to Great Britain and Ireland for one year, from Sept. 1, 1860 to Sept. 1, 1861.

From	Flour, Bbls.	Wheat, Bush.	Corn, Bush.	C. Meal, Bbls.
New-York	1,755,338	20,541,073	8,653,569	3,266
New-Orleans	179,427	66,767	1,464,267	996
Philadelphia	192,175	1,593,416	704,447	—
Baltimore	127,031	969,084	853,200	48
Boston	126,846	13,032	14,100	106
Other Ports	160,844	2,369,998	15,451	—

Totals, years ending

Sept. 1, 1861	2,561,661	25,553,370	11,705,034	4,416
Sept. 1, 1860	717,156	4,938,714	2,221,857	944
Sept. 1, 1859	106,457	439,010	342,013	58
Sept. 1, 1858	1,295,430	6,555,643	3,317,632	143
Sept. 1, 1857	849,600	7,497,401	4,746,278	685
Sept. 1, 1856	1,641,265	7,956,406	6,731,161	6,816
Sept. 1, 1855	175,209	324,427	6,679,138	4,768
Sept. 1, 1854	1,846,920	6,038,003	6,049,371	41,726
Sept. 1, 1853	1,600,449	4,823,519	1,425,278	100
Sept. 1, 1852	1,427,142	2,728,442	1,487,398	1,680
Sept. 1, 1851	1,559,584	1,496,355	2,205,601	5,620
Sept. 1, 1850	574,751	461,276	4,753,358	6,411
Sept. 1, 1849	1,137,555	1,140,194	12,685,260	82,900
Sept. 1, 1848	182,583	241,309	4,390,296	108,534
Sept. 1, 1847	3,155,845	4,000,359	17,157,659	844,187
To. for 15 y's.	18,831,914	74,176,428	85,897,434	1,108,988

To the Continent, from New-York and other Ports.

Year ending	Flour, Bbls.	Wheat, Bush.	Corn, Bush.	Rye, Bush.
Sept. 1, 1861	142,129	3,452,496	101,145	347,258
Sept. 1, 1860	49,243	178,031	19,358	—
Sept. 1, 1859	51,358	57,845	25,519	—
Sept. 1, 1858	303,100	390,428	16,848	13,100
Sept. 1, 1857	483,344	2,875,653	543,590	216,162
Sept. 1, 1856	748,408	2,610,699	282,083	1,975,178
Sept. 1, 1855	7,763	4,972	308,428	35,569
Tot. for 7 y's.	1,785,607	9,569,504	1,296,971	2,587,267

From Canada to Great Britain and Ireland, via the St. Lawrence, Jan. 1st to Aug. 22nd, 1861.

Flour, bbls.	369,648	Corn, bushels.	134,196
Oatmeal, bbls.	17,929	Oats, bushels.	289,273
Wheat, bushels.	3,231,277	Peas, bushels.	1,236,218

The tables above, (made up with great care from the most reliable sources of information,) give at a glance the extent of our exports of Breadstuffs for a series of years to Great Britain, Ireland and the Continent. The past season, it will be seen, is greatly in excess of any preceding one.

The following comparative table shows the quantity of some of the principal kinds of Breadstuffs left at tide-water, at Albany, from the commencement of navigation, to and including the 14th of September, in the years indicated;

	1859.	1860.	1861.
Canal opened,	April 15.	April 25.	May 1.
Flour, bbls.	233,606	466,310	686,552
Wheat, bush.	979,700	7,050,897	14,673,402
Corn, bush.	1,895,226	10,901,927	12,212,721
Barley, bush.	176,696	95,612	200,624
Oats, bush.	2,692,962	3,978,695	3,173,774
Rye, bush.	104,072	149,275	409,397

Receipts of Breadstuffs at Chicago from Jan. 1 to Sept. 1.

	1861.	1860.	1859.
Flour, bbls.	880,358	312,336	330,287
Wheat, bush.	9,298,208	6,816,036	3,456,510
Corn, bush.	18,890,127	13,391,633	3,887,758
Oats, bush.	1,658,378	954,688	766,251
Rye, bush.	286,815	152,662	90,999
Barley, bush.	346,707	236,370	141,338

Receipts of Breadstuffs at Buffalo from the opening of Navigation to Aug. 31, in the years

	1859.	1860.	1861.
Flour, bbls.	643,535	535,280	1,009,803
Wheat, bush.	1,970,516	4,918,311	11,555,752
Corn, bush.	2,103,834	8,679,421	10,486,445
Oats, bush.	576,336	724,622	1,306,228
Barley, bush.	59,438	9,668	166,425
Rye, bush.	12,542	33,032	238,600
Tot. Grain, bush.	4,722,696	14,366,055	23,693,445

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been supplied more largely since our September issue, the receipts averaging 4,466 per week. There was no scarcity at any of the markets, while the receipts for one week (Sept. 10) were over 5,800, which greatly depressed prices. At the last sale, Sept. 18th, there were 4,151 beefs offered, and prices ranged from 8½¢ to 9¢. ♀ lb. estimated dressed weight, for prime cattle; 7¢ to 8¢. for common to good; and 5½¢ to 6¢. for poor, thin stock, of which there was a surplus. The average of all the sales was 7½¢ @ 7¾¢, with no stock left over.

VEAL CALVES continue to diminish in numbers; but increase in size. Several lots of overgrown, grass-fed calves were bought by feeders to winter over. Good veal calves are worth 5¢ @ 5½¢ ♀ lb., live weight, but more sell for 4½¢. than at any other price. Receipts have averaged 518 per week, for the past month.

SHEEP AND LAMBS.—The demand is good, and trade quite active. Receipts have averaged 14,066 per week, which is 1,700 more than last month. Prices are rather lower being equivalent to 3½¢ @ 3¾¢. ♀ lb., live weight

for good fat sheep, and 4c. @ 5½c. for lambs. For the week ending Aug. 20, we had 17,361 sheep and lambs, completely overstocking the market and carrying prices very low. The late advance on wool, by increasing the value of pelts, enhances the value of sheep.

LIVE HOGS are coming in more freely, and the demand increases as cold weather approaches. For the past 5 weeks the average has been 5,681 per week, which is no more than are wanted to cut up and use fresh, in pork, lard, sausages, hams, and bacon. Prices are ½c @ ¾c. higher than last reported, or 4c. @ 4½c. per lb. live weight for corn-fed, and 3½c. @ 3¾c. for still-fed hogs. Stock pretty well sold out each week.

The Weather, since our last report, has been favorable for maturing Fall crops. Occasional showers kept the ground in a good condition until the 11th inst., when a heavy storm wet down thoroughly, and raised the springs.—Our DAILY WEATHER NOTES, condensed, read: Aug. 21, clear, fine—22, cloudy, thunder-shower at night—23 to 27, very fine summer weather—28, cloudy, with rain to lay dust—29, cloudy—30, 31, clear, fine.—Sept. 1, 2, clear and cooler—3, cloudy, with heavy thunder shower at night (.63 inch rain)—4 to 8, clear and fine, with an autumn haze—9, light rain A. M., cloudy P. M.—10, cloudy, cool, heavy rain at night continuing during 11th, 2.07 inches water falling—12, fine, clear weather—17, 18, rainy days—19, clear, warm.

From the 15th of August to the 15th of September, 3.31 inches of rain fell in this vicinity.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

AUGUST.									
1.....72	8.....66r	14.....55	20.....64	26.....62	31.....62	2.....72	9.....62r	15.....58	21.....58
3.....72	10.....68	16.....58	22.....67r	28.....66r	4.....72	11.....69	17.....62	23.....62	29.....69
5.....74r	12.....68r	18.....63	24.....60	30.....66	6.....72	13.....59r	19.....68	25.....63	31.....59
7.....69	Average.....65								

SEPTEMBER.									
1.....55	5.....57	8.....62	11.....66	14.....60	2.....57	6.....62	9.....60	12.....62	15.....64
3.....64r	7.....65	10.....57	13.....60	16.....66	4.....67				

Exhibition Tables at the Office of the American Agriculturist.

During the past month, there has been a most attractive show on our tables, of fruit, flowers, and vegetables—one that would do credit to even a County Fair. Many thousands of visitors have crowded the Office, which has literally become what we designed it to be, the Agricultural Headquarters of the City. We cordially invite all who find it convenient, to inspect the different articles exhibited from time to time, and also to bring or send novelties they wish to show. Our exhibition is a perpetual one—open all the year—and being in the most central location of the city, hundreds, often thousands, drop in during a day. There are, therefore, few better places for exhibiting farm and garden products that are really worthy of being seen. The following are among the articles exhibited, which have not been previously noticed:

VEGETABLES, ETC.—Potatoes: Large Dyckmans and Buckeyes, exhibited by Jacob McLane, Monmouth Co., N. J.... Good Peach Blows, by Michael Foley, Suffolk Co., N. Y.... Several varieties of new seedlings, by Wm. Bulkley, Berkshire Co., Mass.... Tomatoes: New Seedlings, I. Hicks, Queens Co., N. Y.... Fine specimens by J. A. S. Tuthill, Richmond Co., N. Y.... Lester's Perfected, by W. E. Caldwell, Queens Co., N. Y.... Up-right tomato, also cross of Feejee and Italian, very fine, by W. F. Heins, N. Y.... Large handsome specimens from seed distributed at this Office, by Chas. H. Burton, Queens Co., N. Y.... A splendid cluster, weighing 5 lbs. 2 oz., by C. Gregg, Kings Co., N. Y.... Cuhau, a small variety, highly flavored, by G. W. Usher, Richmond Co., N. Y.... Beautiful cluster, from our own seed, raised by the Proprietor.... One vine, Yellow tomatoes, extraordinary yield, by George Hite, Westchester Co., N. Y.... Sundries: German Cucumber, by Jno. Thompson, Richmond Co., N. Y.... Balsam Apple, ornamental, by J. W. Duryea, Kings Co., N. Y.... New Striped Egg Plant, and Scarlet Egg Plant, by W. F. Heins, N. Y.... Hubbard Squash, a splendid specimen, by T. C. Leland, Suffolk Co., N. Y.... Kidney Beans and fine Cassabar Melons, by Geo. A. Elston, Chester Co., Pa.... Union Beet, curious growth, by E. H. Ensign, Essex Co., N. J.... A beautiful pyramid composed of Melons, of the Persian, Borneo, White Japan, Green Japan, Honolulu, and Allen's Improved varieties, interspersed with White and Scarlet Egg Plants, Fancy Gourds, Evergreen Leaves, by W. F. Heins, N. Y.

FRUIT—Apples: A fine collection embracing 40 newer

named varieties, by W. S. Carpenter, N. Y.... Red John, Jersey Orange Pippin, and Maiden's Blush, good specimens, by Jacob McLane, Monmouth Co., N. J.... Ox apples, by P. L. Bogert, Queens Co., N. Y.... Late Strawberry apple, large specimens in good order, sent from St. Paul, Minnesota, by Martin D. Clark.... Pears: 20 named sorts of newer varieties, by W. S. Carpenter, N. Y.... A fine specimen, unnamed, by P. L. Bogert, Queens Co., N. Y.... New Seedling, W. C. Bryant, N. Y.... Specimens of the Washington variety, by Thomas Herendeen, Madison Co., N. Y.... Flemish Beauty, fine specimens, by Benjamin F. Welch, Hudson Co., N. J.... Louise Bonne de Jersey, extra specimens, by J. Thompson, Richmond Co., N. Y.... Virgalieus, by L. Quick, Sullivan Co., N. Y.... Bartlett's, splendid specimens, by R. Leavitt, Queens Co., N. Y.... Grapes: Concord and Porter, by Frederick Seiler, Essex Co., N. J.... Concord and Hartford Prolific, A. S. Fuller, Kings Co., N. Y.... Fine Concord and Delaware, J. C. Kennison, Orange Co., N. Y.... Mulberries from a tree that commenced bearing in June, by S. Tuttle, New-Haven Co., Conn.... Strawberry plants, runners struck in very small pots, one in each, convenient for transplanting, by C. S. Pell, N. Y. Orphan Asylum.

FLOWERS.—A splendid show of *Asters* of many varieties, transferred to pots, from seed distributed at this Office, grown by Franz M. Otto, in the Proprietor's grounds at Flushing, N. Y.; also, *Zinnias*, *Marigolds*, and other cut flowers by the same. Green Centered *Helianthus*, or Floral King, very fine, by S. H. Doughty, Hudson Co., N. J.... German & other *Asters*, by J. Wesley Jones, Columbia Co., N. Y.; also by E. F. Shonnard, Westchester Co., N. Y.... Also, a fine collection of *Asters* cut blooms, by Wm. P. Wright, Hudson Co., N. J.... *Tigridia parvena*, or Texas flower, by Jacob F. Braun, Kings Co., N. Y.... Passion Flower vine with six splendid blooms in the space of six inches, by A. P. Cummings, editor N. Y. Observer.

GRAIN.—Egyptian Millet, by E. Jolly, N. Y.... Chapman's Mammoth Fall Barley, a beautiful grain, from Chs. Chapman, Ottawa Co., C. W.... Rio Grande Wheat, excellent, from Martin D. Clark, Ramsey Co., Minn.... Corn, the stalks and leaves of deep purple color, used for dyeing, from the Proprietor's grounds.

Publishing the "Laws"—A Hint to Exchanges.

Among our nearly two thousand exchange papers, we notice that a large number publish, from week to week, the laws enacted by the legislatures of the several States where they are issued, while two or three in each State publish "by authority" the laws of the United States. The object of printing these laws is to have them read, but it is certain that very few persons can or do find time to go through with all the verbiage and technical language in which the laws are—perhaps necessarily—expressed. The suggestion we would make, is this, that it would be a great convenience to the reader, if the editor would, in the editorial columns, or elsewhere, give in each paper a brief synopsis, or at least an index of the laws published in that paper. Half a column, or even a paragraph or two would suffice to inform the reader of the nature or requirements of the several laws published from time to time. Though not a lawyer, we should be interested in such an outline or epitome of the legislative enactments of the different States; and the citizens particularly affected, would be still more interested. Such a course would not only render these legal columns more interesting, but would cause them to be more widely read, and the people would become better acquainted with the laws of the land.

Bone Mill Wanted—Queries.

There is still an unsupplied demand for a cheap, yet strong and effective mill for grinding raw bones finely—a mill that can be used with a common farm horse-power, and so cheap as to admit of its being generally purchased. There ought to be one in every town, at least, to turn to profitable account the large amount of bones that are now mainly wasted.—*Query.* Can any one tell us, what is about the average weight of the bones of an ox, weighing say 750 lbs. when dressed? The weight should include the bones of the head and feet. We have looked over a large number of books, but can find no reference to the subject.

A Chinaman inquired for a "consistency" in a San Francisco jewelry store. Not being comprehended, he said it was some kind of a "jewel." He was informed by the shop keeper that it was not to be found in the city.

The Postage on the Agriculturist is positively only Six Cents a Year.

We hear that several Post Masters are charging 12, 18, 36, and even 72 cents a year on the *Agriculturist*. This is wrong. The law expressly says that a Periodical issued at stated periods, and not weighing over 3 ounces avoirdupois, shall be charged one cent per number, and only half this sum if paid quarterly in advance. The paper for the *Agriculturist* is purposely manufactured so that it shall weigh a small portion less than three ounces. We would add an occasional extra page for more advertising room, could we do so without increasing the postage to our subscribers. The Postmaster General has several times decided that postage on the *Agriculturist* is only six cents a year. See one of these decisions on page 95, volume XVII. There has been no change in the law or in the weight of the paper since. The paper must be weighed *dry and without the wrapper*. Subscribers will please inform us of any future over charge.

Money by Express.

N. B.—Hereafter, until further notice, sums of \$5 and upward, whether in gold, silver, bills, or stamps, can be sent to us through any office of the *United States Express Company* (and this company only), at our expense.

The New Postage Stamps—Don't Send us the Old Ones.

It should be remembered that only a limited time is allowed to exchange the old for the new Postage Stamps, after which they become worthless. The time has already expired in this City. In sending subscriptions, please be careful to forward no old stamps; and we ask as a special favor, that only three-cent stamps be enclosed as remittances. It is very difficult to sell ten-cent stamps.

Our New Show Bills for 1862,

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Beyond all doubt or controversy, the circulation of the *American Agriculturist* to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at any and all times to substantiate this statement.

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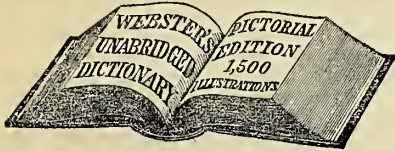
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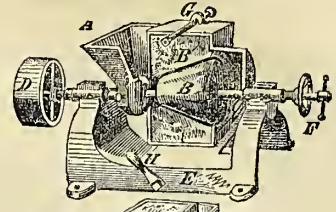
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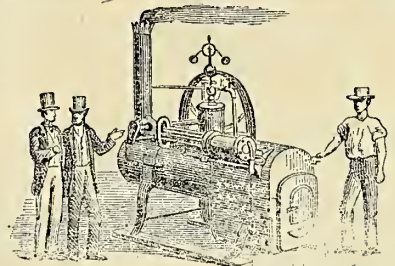
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Contents for October, 1861.

Animals—Diseased; Treatment of.....	294
Animals—How to Improve.....	294
Animals—Improvement of.....	294
Animals—Keep Farm Stock Thriving.....	300
Aquariums—Care of.....	310
Bees—Apiary in October.....	291
Bees—Interesting Experiments with.....	301
Bees—Wintering in the Cellar.....	301
Bone Mill—A Good Wanted.....	317
Books—American Cyclopaedia.....	291
Boys' and Girls' Department—The First Day at School; How a Boy Paid for the <i>Agriculturist</i> ; The "Know How"; A Luscious Peach; A Noble Boy; The War and Corns; About the Treasury Notes, etc.; The Brave Gander; The Dandy's Ruse; A Royal Barber; A Living Hippopotamus; Problems.....	312-14
3 Illustrations.....	296
Cabbages—How to Keep in Winter.....	296
CALENDAR OF OPERATIONS FOR THE MONTH.....	290
Cellars under Barns.....	296
Cheese Press—A Simple.....	Illustrated. 301
Corn Stalks—Save the.....	298
Cotton—Raising in the Colder States.....	295
Dahlia—A Hint for the.....	307
Draining—Sundry Suggestions.....	5 Illustrations. 297
Eggs—Preserving.....	309
Exhibitions—Agricultural in 1861—Time and Place of.....	315
Exhibition Tables at <i>Agriculturist</i> Office.....	317
Fall Work—A few "Chores".....	298
Farm Work in October.....	290
Farming—The Great End in.....	300
Fencing—A Durable Bar-post.....	300
Flower Garden and Lawn in October.....	290
Flower Seeds—Save the.....	307
Food—Cheap.....	311
Fruit Gatherer—Simple.....	Illustrated. 309
Garden—Kitchen and Fruit in October.....	290
Green and Hot-Houses in October.....	291
Green Houses for the People—No. 1. 3 Illustrations.....	307
Greenwood Cemetery.....	303
Hedges—Chapter on.....	3 Illustrations. 302
Horse—How to Choose.....	300
Humbugs—Great Bazaar—New Dodge.....	296
Husbands—Short Lecture to.....	310
Ilyacinth—How to Grow the.....	306
Insects—Aphides on the Aster.....	306
Insects—Borers Caught "Napping".....	306
Insects upon Evergreens.....	306
Laws—Publishing; A Hint to Editors.....	317
Market Review, Weather Notes, etc.....	316
Meat—Cooking; Making Soup.....	311
Miller's Bolt—Cleaning; Another Method.....	300
Millet—Valuable Variety from Wisconsin.....	298
Moths—A Word to.....	311
October—Suggestions; Planting Fruit Trees. <i>Illust.</i>	289
Orchard and Nursery in October.....	290
Perfume of Flowers—To Obtain and Preserve.....	308
Plants—How to Improve.....	295
Poultry—Commence to Fatten.....	301
Premiums for Indoor Manufactures.....	310
Premiums offered for 1862.....	315
Prize Articles—Time Extended.....	293
Prospects for Farmers.....	294
P's—The Three—Value of Health.....	310
Recipes—Green Corn Cake—Tomato Corn Cakes.....	311
Soil—Benefits of Pulverizing.....	299
Stacks—Improved Bottom for.....	Illustrated. 300
Strawberries—Transplanting—Good Method. <i>Illust.</i>	309
Swine—Chester Co., Pa.—Described.....	301
Tile Machines—Information Wanted.....	291
Tim Bunker on Buying a Farm.....	299
Tree Planting—Hints on.....	305
Trees—Disease in Apple.....	306
Trees—Plant Small.....	305
Trees—The Best Elm—Desirable Sorts.....	305
Trees—To Revive Dormant Buds.....	305
Trenching—Overdoing in.....	307
Ventilating Dwellings—Simple, Cheap Method. <i>Illus.</i>	309
War—The Campaign of the <i>Agriculturist</i> . <i>Illust.</i>	304
Weeds—A Good Law Disregarded.....	299
Weeds in Walks.....	307

INDEX TO "BASKET" ITEMS.

Animals and Plants—Relative Size of.....	293
Apples and Wheat from Minnesota.....	293
Apples in Newspapers.....	292
Beans—Stacking.....	292
Bees—Candy for.....	293
Bees—Oil Cake for—Amount of Honey Needed.....	293
Blackberries—Protecting.....	292
Bones—Dissolving.....	293
Cement Drains for Water.....	293
Cotton from Milk-weed.....	293
Drains—Open Ends of.....	293
Exhibition—Brooklyn Horticultural Society.....	292
Fish Culture—Information Wanted.....	293
Fruit—Hot-Beds for Drying.....	292
Grain—Immense Stock of.....	292
Grape Layers.....	292
Grapes—Cold—Queries.....	292
Insects—Destroying Earth Worms.....	292
Insects—Twenty Bushels of Army Worms.....	293
Ireland—Cultivated Land in.....	293
Lawn Grass—Best.....	292
Magazine of Fashions—Something New.....	292
Meadow—Burning over.....	293
Melons—Persian or Cassabar.....	292
Millet—Three Specimens of.....	293
Musk-rats—Destroying.....	293
Onion Seed—Scalding.....	292
Orchard Houses—Failure of.....	292
Osage Orange Seed—Sowing.....	292
Peas—Guinea Dwarf.....	293
Plants by Mail.....	292
Plows—Wheels on.....	292
Premiums—No more Special.....	292
Soap Weed from California Described.....	293
Strawberry Runners—Potting.....	292
Straw for Feed.....	292
Swine—Scrubbing—A Convenient Pig Trough.....	293
Trees—Protecting from Rabbits.....	292
Wine—Home-made from Native Grapes.....	293

2 Months Free.

As every person who reads a few numbers before January, will be quite likely to influence others to begin with the next volume, we make the following offer:

To all new subscribers for 1862, (Vol. 21.), whose names are received during October, we will send the paper for the remaining two months of this year without charge; that is, we will send the paper 14 months for the regular price of one year. *Illust.* This offer extends to all new subscribers received this month, whether in premium clubs or otherwise, and also to very distant subscribers received after November 1st.

Illust. A few hundreds of the first names now received, will also get the present number, (October,) as we shall print a moderate extra edition.

About Next Year, Large Premiums. FREE SEEDS. Bounty to New Recruits.

The motto of the *Agriculturist* has always been, and still is: "Published to do Good and Make Money." Acting on this maxim, we have spared neither exertion nor expense, to make it a good paper, and to increase its circulation and good influence. That much good has been accomplished, our readers have abundantly testified. We might refer, also, to the thousands of homes that, during many years past, have been bettered, and beautified with-out and within, by its hints, suggestions, and plain, practical instructions. The amount of money we have made, is not worth talking about yet.—After so many years of strenuous effort, we had hoped to rest from EXTRA publishing labors for a year to come, but the times admonish us to the contrary. Our Southern subscribers are cut off for the present, and many of our Northern subscribers have exchanged the plow for the sword. To make up for all possible losses, and to reach a little higher circulation still, we are now ready to put forth any amount of further effort.—To those who will aid us by collecting clubs of subscribers, we shall not only be grateful, but we have provided to remunerate them for time and labor expended. See premiums on page 315.—To new "recruits," now, we offer a "bounty." See above.—To all subscribers, new and old, we shall not only offer a lot of good seeds (see page 261 last month), but shall also try to give them just the best paper that can possibly be made.

Our business is arranged to give a large dollar's worth to every reader, and yet to save a small profit on each annual subscription—an amount so small on each, that no one would wish to make it less; still on our great circulation, even this affords a nice little sum that we would like to "store away." But in these hard times we are willing to divide the profits among our readers. So, after appropriating what may be needed to remunerate voluntary agents, we intend to "invest" the balance in distributing good seeds to all who desire them, and in improving the character, beauty, and real value of the paper.

Will it Pay?

(A Dialogue, "made to Order.")

(not) MR. SMITH.—See here, neighbor, I want to advise you about making a small extra investment, in these hard times—say a dollar.

(not) MR. JONES.—What is it? Will it pay?

1st Speaker.—Well, it has paid me for twenty years past, and it is likely to pay better now than ever before.

2nd Speaker.—I am in a hurry, but what is it?

1st Speaker.—You see the great piles of papers on those shelves—twenty large volumes of them. Here just look at a single volume. You see there are 384 great pages, more than twice as large as a common magazine; and if you will count up, you will find about a thousand articles or "pieces" each one of which gives some useful instruction about field work, or orchard work, or gar-

den work, or house work, or about various farm animals, or something for the young people; and see how many fine engravings there are that show just how things look—why there are hundreds of them in this one volume.

2nd Speaker.—Must be much trash in so many things!

1st Speaker.—I have not found any. There may be some—it would be strange if there were not—but I find plenty of good things, enough to pay a hundred fold. Why, if I only valued one item in every ten, these would cost me only a cent apiece, and I have found many hints that have each paid me more than a dollar.

2nd Speaker.—What about the "extras" for next year?

1st Speaker.—Well, you see, in addition to what you find in this one volume, (the next one will be quite as good, I suppose,) the publisher is offering some extra inducements for these "war times." If you send on your name now for the next volume, which begins January 1st, you will get the paper for the rest of this year free. Then, the Editor is going to present to each subscriber a lot of good seeds, next Winter. He has done this every year, but on account of the reduction in the postage on seeds, and other reasons, he is going to send an extra lot this year.

2nd Speaker.—It must pay. Will you send my name?

1st Speaker.—Yes, with pleasure.—I forgot to tell you that the Publisher of the *Agriculturist* has offered \$240 for information from practical experienced men, about cultivating Fall and Spring Wheat, Corn, Oats, Apples, Peaches, small fruits, feeding animals, fattening animals, and about the Kitchen Garden, and Flower Garden. From all these contributions of experienced men, the 12 best articles are to be selected, and \$240 paid for them, and these are all to be published in the *Agriculturist*. So we shall each in reality get, for one dollar, all the information for which the publisher pays \$240!

2nd Speaker.—Well, I'll try the paper, as you say you have had it for 20 years, and find it all right. I guess, from its looks, it will be good for wife and children too. But how is so much given for so little money?

1st Speaker.—It was all explained in the paper last Winter. You see, the *Agriculturist* has about twenty times as many subscribers, as most other papers have. So the publisher saves the expense of nineteen business offices, nineteen printing presses, nineteen sets of office men—editors, clerks, foremen, type setters, etc.—because one set answers just as well for a hundred thousand as for one thousand subscribers. So, you see, the publisher has more profit to expend in making a good paper, in getting fine engravings, and in raising and buying good seeds for distribution; and also for offering premiums. This explains it all.—But you need not wait for me to send. Just write your name on a piece of paper, with Post Office, County, and State, and say "Send *Agriculturist* for 1862, and the extra numbers." This is all the writing needed. Enclose it with a dollar, seal tight, and direct it plainly to: Orange Judd, 41 Park Row, New-York City.

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS, for the LAWN or YARD; care of DOMESTIC ANIMALS, &c., &c., and to HOUSEHOLD LABORS. It has also an interesting and instructive department for CHILDREN and YOUTH.

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ORANGE JUDD, 41 Park-Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M., }
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November.

"In thin dry mist that morn the sun rose broad and red;
At first a rayless disk of fire, it brightened as it sped.
Yet even its noontide glory fell elated and subdued
On corn fields and on orchards and softly pictured wood.
And all that quiet afternoon, slow sloping to the night,
It wove with golden shuttle the haze with yellow light;
Slanting through the painted beeches, it glorified the hill,
And beneath it pond and meadow lay brighter, greener,
still."
WHITTIER'S HUSKERS.

No sooner has the first frost fallen, though it be on the first day of Autumn, than people begin to talk of the Indian Summer, as if that period were as well settled and as easily discerned as the regular seasons. Having recently consulted the clerk of the weather, we propose to post our readers upon this most charming period of the year. Whittier with a true poetic instinct has given us a complete picture of one of these Indian Summer days. We see the seeming mist which is no mist at all, for the morning is as dry as a July morning in drouth. A soft haze hangs over field and forest, subduing the radiance of the sun, even at midday. It is this unusual diminished light that throws such a

charm over the landscape. The clear outline of objects, so noticeable in a brilliant Summer day, is no longer visible, and the imagination is called into play, to fill up the defective vision. The islands that lie slumbering on the distant sea, or lake, are elevated, and so seem to have come nearer to us, as if they had changed their places in the night. The trees look taller, and the hills grow higher, the rocks are magnified, and the distant plain has a wider expanse. The deep luxuriant green of Summer has gone, but the landscape looks far more beautiful than in its richest dress. We have the "dim religious light" under the open sky, and every object seems glorified. The feelings very naturally take the hue of surrounding objects, and we look forth upon nature with a sober quiet enjoyment, a perfect contrast to the rapture with which we hail the bright skies, and the opening flowers of Spring.

Every one must be conscious at this season, of the stirring of some more powerful principle within him than mere animal life. The spiritual nature is quickened, and there is a longing after something higher and better than earth can give. The stillness that reigns every where, the sober hues of the landscape, the falling leaves, and the bare fields, are powerful aids to reflection, and the mind, released from the pressing cares of Summer, now falls into genial musing. This is one reason, probably, why these days are so enjoyable. Faculties that with multitudes are partially suspended under the pressure of business, are now called into the highest activity.

These Indian Summer days are too beautiful to come all together, or to last long. They begin earliest at the far north, and follow the retiring Summer to the far South. The best authorities put them immediately after Squaw Winter, which is the first cold snap that destroys tender vegetation. This is often accompanied by flurries of snow and the freezing of the ground as if the real Winter had commenced. This rarely comes before October even in New-England. The true Indian Summer then begins, and according to the calendar we must have twelve of these days before the real Winter commences. We have the most of them in November, rarely, however, coming more than one day at a time at this late season.

They are found in greatest perfection along the Atlantic coast, where the influence of the Gulf stream is felt. A breeze from the South or Southwest brings the atmosphere of the tropics, and the most enjoyable weather of the year. When the Governor guesses right, and Thanksgiving week falls upon Indian Summer, the cup of blessing runs over, and there is nothing more to be desired. The old homestead is certain then to be crowded, and the last grandchild to be brought to the family gathering. The warm sunshine of the heart finds its fitting

response in the outer world, and the chill blood of age is quickened with a Summer glow again. Old age, surrounded with children and children's children, is much like the Indian Summer. It lies between the active duties of life and the Winter, which we call Death, but which is really no Winter but Spring time, if life have been well spent. It is sober but genial, all the activities are subdued, the passions softened, making it the ripest, best period of Summer life.

This is the month in which we usually pay our respects to "the old folks at home," and as we have talked abundantly of planting and hoeing, haying and harvesting, for the edification of our young and middle aged friends, we propose now to say a word for that less numerous, but not less honored class, who only read these pages through the aid of glasses. It is said, with how much of truth we can not tell, that the custom of returning to the old homestead to keep the only festival in the Puritan year, is not so generally observed as in the last generation, before the advent of steamers and railroads, which would seem to make the trip much more safe and pleasant. It is certainly true that the day is more widely observed, nearly all the States taking public notice of it, the churches gathering for worship, and families doing ample justice to the roast turkey and the chicken pie. But the charge is, that the son, who left the farm early in life, and who has been prospered in the city, finds it more agreeable to spend the day around his own mahogany, and inside his own marble front, than to make a pilgrimage to the humble dwelling that sheltered his childhood and there keep the feast in plainer style with father and mother. He has lost his relish, not only for country life, but for the simple manners and frugal fare of the good old people that gave him being, nourished his helpless infancy, and trained him to habits of virtue and industry. He has forgotten the plain granite rock whence he was hewn, and affects marble. This may be putting the case rather strong, for business cares rather than pride, we would gladly believe, wean sons and daughters from the old homestead. But it is paying too high a price for worldly success, however great, when it blunts filial affection, and weans us from the assiduities that are always due to parents.

The annual pilgrimage at any reasonable sacrifice, will make better sons and daughters, and give happiness that gold can not purchase. The old folks are often lonely at the eventide of life, having sent out all their children to new and distant homes. This year, the war has taken the last son from some of these homes, and the Benjamin of the family on whom they had leaned for support will spend this festival in the tented field. Those who can, should go to cheer these bereaved hearts, now saddened by a double grief, their country's and their own.

Calendar of Operations for Nov., 1861.

[A glance over a table like the following will generally call to mind some piece of work that would otherwise be forgotten or neglected. The remarks are more especially adapted to places between 38° to 45°; but will be equally applicable further North and South, by allowing for latitude. —The calendar will, of course, be much more full during the season of active field and garden work.]

Explanations.—*f*, indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm*, or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm*, or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The shortening days and intervals of severe weather betoken the approach of Winter, and every thing should be in readiness for its coming. Any root or other crop unharvested needs the first attention. Threshing and marketing grain will profitably occupy the time of many. Permanent improvements in building, fencing, draining, etc., can be made most favorably at this season.

Buildings should be thoroughly examined, and put in repair. Clear out and fit stables and sheds for the early accommodation of stock.

Cattle—Confinement in the stables at night, and feed liberally, and with a variety of food. Use the straw cutter—it is a good economizer of fodder; cook roots.

Cellars—Keep well ventilated where roots are stored, and guard against rats. Use straw, leaves, muck, or soil rather than stable manure for banking up outside.

Cisterns and Wells—See that all fixtures are in order to convey water, and guard against freezing of pipes.

Corn—Complete husking, *ff*, if not done, or as soon as practicable; the weather and vermin injure that left in the field. The stalks should be saved from the beating and rotting of storms. Store the ears in well ventilated cribs. Select the best ears for seed, if neglected until now.

Draining—Continue to make drains as needed, while the weather permits. Clear out open ditches and road sluice ways, and occasionally examine drain furrows in grain fields. Standing water kills grain roots.

Fruit—Keep in a cool place, but guard against freezing. Sort over before removing to winter quarters.

Grain—Thresh early, and market or store securely. Select the best for seed. "Like produces like."

Hedges—Plant deciduous, *ff*, *m*, if the soil be dry; otherwise leave until Spring. Leave evergreens till May.

Hogs—Keep up their appetite by change of food, and fatten as rapidly as possible. Cold weather consumes fat. For early pigs turn a male among the breeders, *m*, *ll*.

Horses—Feed with unthreshed oats run through the cutter, with hay and carrots, alternating occasionally. Keep stables well ventilated, and keep the skin clean and active with curry comb and brush.

Ice Houses—Prepare for filling early. There may be but one crop of good ice.

Manure—Collect plenty of leaves from the woods and muck from the swamps, to use for bedding and compost. Allow no accumulation of heaps near stable doors. Keep all under cover in sheds, and compost with muck, etc., as fast as collected. Plenty of manure—good crops.

Flow heavy lands intended for corn in Spring, and leave it unharrowed, to ameliorate the soil and destroy insects.

Poultry—Complete fattening early. Keep the store hens in warm quarters, feed well, give them a little fresh meat occasionally, with plenty of gravel, ashes, and lime or pounded oyster shells.

Pumpkins—Feed to cattle, first removing the seeds. Keep secure from frost. A dry loft, with any needed covering of straw, is better than a dry cellar.

Roots—Harvest any remaining, *ff*. See page 334.

Sheep—Take them from the pastures early, and provide ample sheds, well ventilated, for protection from storms. Feed in racks apart from other stock. Allow free access to water, and salt weekly. For early lambs turn in the buck, *m*, *l*.

Straw used for feeding, should be cut and mixed with meal or shorts. Use freely for litter.

Sorghum—Complete cutting and manufacturing, *ff*. Keep under cover until used. Moderate freezing does not spoil it for syrup, if not allowed to heat.

Tools—Keep all in their place under cover. Repair and paint as needed. Coat steel and iron surfaces with hard and a little rosin melted together, to keep them from rust. Clean and oil harness, and put the sleighs in running order.

Winter Grain—Keep the drain furrows open; allow no water to stand on any part of the surface.

Wood—Collect all fallen branches, clear up under brush, fell decaying trees, and have a full supply ready to draw when snow comes.

Orchard and Nursery.

Fall planting is now in order, and many good practical tree growers strongly advocate setting out trees in Autumn. If the ground is measurably dry, we advise to plant hardy trees after the first hard frost in the Fall, but leave the evergreens and tender fruit trees, including most of the stone fruits, until Spring. See articles upon this subject in October *Agriculturist*. To guard against mice, it is well to make a hillock of earth about newly planted trees, especially near stone walls, and other places affording a shelter for the field mouse. These mounds also serve to keep the trees from being swayed about by high winds, but they should be leveled in Spring.

In addition to the regular orchard, see if there is not room for a few fruit trees about the buildings, along the lanes or highway, where they will be both ornamental, and afford a pleasing shade in Summer. We commend the taste of ornamenting small places with different varieties of fruit trees, some of which have beauty of form, and foliage, not excelled by many of the prized foreigners.

If the cider making is not completed, finish early in November, before the apples decay. Better feed soiled and wormy apples. Worm juice or oil may add to the smooth flavor of cider, but not to its agreeableness. It don't "work off through the bung hole." We once counted over 2,300 worms in the apples that were made into a single barrel of cider.

This is the best time to collect grafts or scions for next Spring. Cut from bearing proved trees as much as possible, tie in bundles, mark with a painted wooden label, and bury in dry soil in the garden, or pack in boxes of earth in the cellar.

Some of the late fruit may still remain ungathered. Secure it, *ff*, and keep all Winter fruit out of the cellar as long as possible. A cool, dry shed or barn will serve a good purpose. When finally removed to the cellar through fear of actual freezing, keep the windows open, until severe weather necessitates closing them, and in a cool, dry atmosphere the fruit will keep a long time. Sort over carefully when put in, removing any decayed and bruised fruit. Pears will ripen best when laid on shelves in woolen blankets. Bring them from the cellar, as wanted, and ripen them in a warm room. See page 337.

Seeds of apples, pears, quinces, plums, cherries, peaches, and the various nuts and hard-shelled seeds—plant, *ff*, *m*, if not already done as directed last month. Other nursery work will require attention, such as a final plowing between the rows, turning the furrows towards the trees, leaving open drains for the water to run off, etc.

Let all the hardy stocks from the seed beds be set this Fall, while there is leisure to do the work well. Manure the soil heavily, plow and subsoil or trench thoroughly, and set the stocks by a line stretched along as a guide. The more tender seedlings may be taken up and set in sand in a shed cellar, or be covered with leaves and evergreen brush in the seed bed.

Some of the half-hardy shrubs and vines will need protection during the Winter. If they will admit of the process, bend them down, and cover with earth, but if too rigid to lay down, cover with straw, old mats, or boughs of evergreens set up about them.

Kitchen and Fruit Garden.

Now that the crops of vegetables and fruits are secured, do not leave the garden in an untidy condition. Gather and burn all weeds and rubbish which can not be made serviceable in the manure heap. Weeds which have ripened seeds are not fit for manure; if taken there, the seeds would be propagated next season.

Asparagus beds may still be made, *ff*. Cover the old beds, *m*, *ll*, three inches deep with horse manure, to be forked in next Spring.

Beets—Gather, *ff*, before injured by frost. Twist off tops and feed to cattle or pigs. Store in a cool dry cellar.

Blackberries—Set out, *ff*, if not already done.

Cabbages and Cauliflowers—Harvest the late crop and store for Winter in the cellar, or cover with earth. See page 296, Oct. Number. Set young plants in cold frames.

Carrots—Dig and store remaining crops, *ff*.

Celery—Earth up, *ff*, in dry weather. Store for Winter, *m*, *l*. Set it upright in barrels, or on the cellar bottom, or even out of doors, and cover with sand. Keep the leaves together that no earth may fall between the stalks.

Cold Frames—Set in, *f*, *m*, cabbage, cauliflower, lettuce, etc., for Winter protection. Cover with glass or shutters at night, removing them in the day time until cold weather. Destroy mice that may enter, with poison-

ed meal. As the cold increases, bank up about the sides and put straw over the covers.

Currants and Gooseberries—Transplant, *ff*, *m*. Protect the roots with a coating of manure.

Dwarf Pears—Give a top dressing of old manure, and make a mound of earth six inches high around the trunks to protect the bark from mice.

Drain and trench clayey soils; it will make them fit to work earlier next Spring, and improve the soil.

Grape Vines—Plant roots and layers, *ff*, *m*. Prune as needed, and preserve cuttings in sand for next year's planting. Take vines from trellis, *m*, and protect with straw or earth. Read article on page 338.

Onions—Cover any to be left in the ground with straw.

Parsneps and Salsafy—Dig, *m*, *l*, what is wanted for Winter use, and bury in sand in the cellar. Both are improved by being left in the open ground through Winter.

Plow or spade up all unoccupied ground and leave it in ridges to be mellowed by frost.

Poles, stakes, frames, etc.—Gather and house.

Raspberries—Transplant, *ff*, if not completed. Bend down and cover tender sorts with an inch of earth.

Roots—Complete harvesting before injured by frost. For directions about storing see pages 334, 339.

Rhubarb—Set roots and crowns, *ff*. Cover with coarse stable manure for protection.

Spinach—Hoe and thin the plants, and cover with straw.

Strawberry Beds—Protect with a light covering of straw: an inch deep is sufficient. Hardy varieties will yield the better for it.

Flower Garden and Lawn.

The Chrysanthemums are now nearly alone in their glory. The dahlia and gladiolus linger in some localities, but they have generally been cut down by frost, and should now be lifted and put away for winter. Pack them in dry earth, and set in a dry place in the cellar. Any bedding or other plants, intended for the house or cellar, should be taken up, *ff*, *m*, and put into winter quarters.

If the bulbs have not been planted, lose no time in getting them in, as directed last month. They are usually left too late to bloom freely the next Spring, and in many cases are entirely neglected—Autumn not being the usual planting season. They come into bloom so early in the Spring, and are such universal favorites, that we urge a liberal planting of hyacinths, tulips, crown imperial, fritillarias, crocuses, etc.

Most Climbers, such as the wistaria, ivy, honeysuckle, climbing rose, etc., come out fresher in Spring, if now taken from trellises and laid upon the ground. A slight covering of earth, straw, or leaves, will still further protect them. Tender roses and other yielding shrubs are best protected by bending over and covering with earth. Those too rigid to admit this, may be bound up in straw or have evergreen boughs set around, and firmly bound to them. A light protection, little more than a shade from the sun, will be of great service to tender shrubs.

Shade trees and shrubs may be set with advantage early this month, the more so, as there is plenty of time to do the work well. If the place is new, and the lawn not yet arranged, Autumn is a good time to perform the heavy grading, filling in, terracing, laying out walks, etc. Established lawns should be cleared of falling leaves rubbish, etc., and be rolled previous to hard freezing, unless the ground be dry, and the turf firm.

Hedges may still be planted on dry soil, *ff*. If they require what is called the Winter pruning, that is, cutting away from the bottom and sides to increase the height, it is better to do it now. In few cases, however, will this be needful, as the bottom should be kept close and thick.

Perennial flowering plants will give a finer bloom another season, if transplanted now rather than in Spring. Divide the roots of such as are to be increased in number. Paeonies, lilies, and a few other plants will flower feebly, if set in Spring.

Complete all the Winter arrangements early in the month, attending to the pits as needed. Have every thing secure for hard frosts, which are soon to be expected, where they are not already upon us.

Green and Hot-Houses.

There will necessarily be much activity in this department now, especially where fire heat is used. The remaining half hardy plants should be taken in and arranged early this month; those intended merely for wintering, require only to be placed beyond the reach of frost in the green houses. Plants for propagation or for winter flowering, must go into the forcing departments. Having put every thing in its appropriate place, one of the first

things should be to provide an abundant supply of potting soil to be used during winter. It is always advisable to use at least a portion of fresh earth whenever a repotting is necessary. The old soil may be incorporated with the heap, and used again after some months exposure to air, but it should be well mixed with fresh, rich compost.

Provide early for a good and constant succession of winter bloom for the conservatory, parlor window, or hot-house. Unless already attended to, set out a large quantity of bulbs, hyacinths, tulips, crocuses, etc., in pots of various sizes and shapes—hedge-hog, bee-hive and column form—and in glasses to be placed in the green house or other cool place at first, and afterward taken to warmer quarters for flowering. By a judicious arrangement, a constant bloom of these fine odorous flowers may be kept up during the whole winter.

Many of the flowering shrubs, such as double flowering almond, plum, azalea, deutzia, spirea, etc., flower finely in the hot-house, and are attractive objects when formed to dwarf by frequent pinching, with compact and well rounded heads. They alternate finely in small collections of camellias, roses, ericas, fuchsias, hydrangeas, and other shrubby plants of the green house proper. A good assortment of annual flowering plants should also be sown at once if not already put in. The bedding verbenas, petunias, lantanas, salvias, etc., which have given such pleasure in the open ground during the entire season, should receive due attention inside, where they may be equally attractive if well potted and properly disposed of.

Care should be exercised in the heating apartments, especially among collections recently growing in open grounds. A high temperature would suddenly throw them into a weak, sickly growth, which should by all means be avoided. Except among collections accustomed to a high temperature, 60° of warmth is sufficient until the plants have become well established. The temperature should also be kept as even as possible. A good thermometer is indispensable for a guide. In clear, warm weather, the doors or ventilators may be kept open for several hours during the day.

Water should be kept in open tanks in the houses, that it may always be of the proper temperature for use. Use sparingly during the first stages of growth, but syringe the walls and foliage occasionally, to preserve a humid atmosphere and dislodge insects.

Prune and lay down, or tie up grape vines which have ripened their wood. Give them a season of rest now. If the roots are in an outside border, cover them with manure, straw, etc.

Use every precaution to prevent insects from forming a lodgment in the houses. It is much easier to keep them out, than to destroy them after they are once established.

Apiary in November.

Prepared by M. Quinby—by request.

The directions given last month in this department, were so full, that little more need be added now. Bees are usually very quiet this month. If a proper selection of stocks for Winter has been made, all persevering attempts at robbing are given up; whenever there is pleasant weather, and they fly out, it is simply for exercise, instead of plunder.

There is little to be done now, unless something has been neglected. Any empty honey boxes not put away, should be brushed up, and put in order for another season. Entrances to all the hives should be contracted to exclude the mice. If it is desired to paint hives that contain bees, this month is the best time to do it. New hives for another year should, if possible, be made and painted now—the longer paint is applied before using, the better. It is not usually best to put them into their winter quarters before December, as they need to fly out during any fair days, before their long winter confinement.

Our Maps of the Seat of War.—On pages 345, 348, and 349, we print three new maps, which show all the leading points of interest during the present war, so far as developed up to this date (Oct. 18.) As the contest goes on, other obscure localities may become famous—as much so, perhaps, as the previously unheard of rivulet, called "Bull Run." The scale of miles on each map will generally enable the reader to locate any new points by measuring with rule or divider its distance from some leading town already on the map. The paper is sized to bear writing ink, and a convenient plan is to mark down with a pen the ascertained location of any places of new interest, and also to draw a small circle around such points as have become noted by recent events. Red ink will make the spots still more conspicuous. Our younger readers will find it profitable to study Geography daily in these times, as localities studied out in connection with the occurrences now transpiring, will never be forgotten. A large Naval Expedition has just gone to sea, and probably one of the "seats of war" will be at some point on the Southern Coast. Not knowing where it will be we can not furnish a map in advance.



Containing a great variety of items, including many good hints and suggestions which we give in small type and condensed form for want of space elsewhere.

Remarkable Weather.—Here we are, past the middle of October, and not a touch of frost has been felt. The tenderest vegetables are yet as green as in midsummer. The Lima Beans are in full vigor, ripening off their third, fourth or fifth crop of ripe pods. The pastures yet afford fine forage for the cattle; while the most laggard corn seems to have all the days of grace it could ask. This weather will count millions of dollars in the yield of the cornfields and dairies of our country.

P.S.—A letter from N. B. Saffard, dated Oct. 16, White River Junction, Vermont, (latitude 43½°) says: "It is now October 16, and no frost yet in this part of Vermont. In my garden, the squash, cucumber, and tomato vines are in blossom and growing finely. Beans are up four inches, grown from beans ripened and dropped this season—and so of tomato plants. Such weather, before this season, is out of the recollection of the 'oldest inhabitant.'"

How fired the Strawberry Plants?

—We have this Autumn sent out by mail thousands of premium Strawberry plants to all parts of the country, putting them up in oiled silk or muslin, and covering them as closely as the Post Office Department here would allow. We have heard several good reports of them, and but few failures. Not only for our own credit, but as matter of general information, in regard to the feasibility of this mode of sending plants, we shall be glad to hear from many others. A line or two, added to any subscription letter or other communication forwarded to this office, will be all that is needed.

Blackberries—Distance for Planting.

—Buel D. Overton, Suffolk Co., L. I. The best plots of the New Rochelle Blackberries, we have seen, were 6 feet apart. They were kept in the rows, which they filled up like a hedge. Except on extra good soil 4 feet apart in the rows would be preferable to 8 feet. On poor soil 4 feet apart, in 6 feet rows, would give room enough for a few years. They may be planted in early Spring, but we prefer Autumn, as the roots then get well established earlier in Spring, and suffer less from drouth the first season.

Berries in October.—It may be well to put on record, that we have this 16th day of October, 1861, picked from the open garden, the largest New Rochelle Blackberries of this season, 3½ inches in circumference; also fine Belle de Fontenay Raspberries, and plenty of the Catawissa; also a few fine Jenny Lind strawberries, from vines having blossoms for more. This will do for October.

Asparagus Beds in Winter.—"Odd-well." In November cut down the old stalks and burn them, spreading the ashes on the bed, or, better, put the stalks in the compost heap. Cover the bed with 2 to 4 inches of well rotted manure, digging most of it into the soil.

Protecting Grape Vines.—W. A. Fraker, Huntingdon Co., Pa. The cuttings of hardy grape vines, planted last Spring, may remain unprotected till next Spring, and then be set in the vineyard.

A City Mechanic's Grape Vine.

—W. B. Westcott has in his yard, in Madison-street, in this City, an ordinary Catawba grape vine, 8 years old, which yielded over 200 lbs. of fine fruit this season. At 10c. per lb.—a low price for such fine clusters as he exhibited at the *Agriculturist* office—they are worth \$20. This is not bad for a vine which is only one of several on a lot 20 by 100 feet, house and outbuildings included. The cost is next to nothing; the pleasure is not to be reckoned in dollars and cents. This is one of ten thousand illustrations of what may be done, even on the limited city house-lots. Mr. Westcott has been a long time a subscriber to this journal, and we are pleased to know from himself, that he finds it a valuable and pleasing visitor.

Japan Lily and Tuberose.

—Mrs. G. S. Anoble, Herkimer Co., N. Y. The Japan Lily need not be taken in during the Winter. A few inches covering of stable litter is sufficient. The Tuberose is more tender, and requires lifting and drying before winter sets in. Keep in boxes of sand, in a cool, dry place, same as dahlias, and plant out in May.

Fowler's Steam Plow.—This apparatus which has attracted much attention in England, and is there coming into extensive use, is about being introduced into this country. Mr. R. W. Eddison, an agent of Mr. Fowler, has recently brought over one of the plows, and it is now on exhibition near Philadelphia, where it is to be thoroughly tested. It will be remembered that the first premium of £100 was awarded to the Fowler plow, in a recent trial at Leeds, England, and also £75 out of £100 which had been offered for the best plow worked by an ordinary portable engine. The remaining £25 was given to Mr. Howard, instead of £75, as was stated in the September *Agriculturist*. See advertisement in this paper.

A fine Engraving.—We have received from the publisher, Mr. J. Lewis, of this city, a beautiful steel plate engraving of very large size, representing the "Last Supper." It is copied from Leonardo da Vinci's great painting, the finest picture of the subject ever made. The price has been reduced from \$10 to \$2 which places it within the reach of the masses.

The World's Fair in 1862.—The Commissioners named by Congress to represent the interests of Americans at the World's Fair to be held in London next year, have appointed an Executive Committee, consisting of B. P. Johnson of Albany, N. Y., Chairman, James R. Partridge of Maryland, Secretary, and Henry Kennedy and Mr. Seaton of Washington. It is their duty to make all necessary preparations for the exhibition of American contributions. An office is to be established at Washington, and a description of all articles intended for exhibition is to be submitted to the Committee for examination. Communications on the subject may be addressed to either of the above named gentlemen.

The Westchester Co. (N. Y.) Fair, was more successful this year than usual. The presence of a large number of Fire Companies added to the attractions and to the receipts. The display of animals and implements, and of farm, garden and household productions was good, but not quite up to the ability of so populous and flourishing a County. There are abundant facilities in this County to sustain one of the largest agricultural and horticultural societies in the country.

Queen's County Fair.—Notwithstanding the war excitement, and the necessity of changing the day on account of the national fast, the Queen's County Fair, on Thursday, Oct. 3, was the most successful one ever held by this old and enterprising Society. The general display of agricultural, horticultural, and household products was unusually large. The attendance reached fully 12,000 persons, though the grounds were open but a single day. It is believed by many of the Society that the old custom of a one-day show should be varied. The trouble and expense of getting up the display are little more for two or three days than for one day, while the attendance and receipts would be likely to be much larger. There is much to be said on both sides of this question.

Glen Cove Farmers' Club, L. I.

From what we hear of the doings of this Club, and see of the results of their labors, we conclude it is one of the most spirited associations of the kind in the country. At the recent exhibition of the Queen's County Agricultural Society, we noticed a wide table, 35 to 40 feet in length, entirely covered with prodigious vegetable products, contributed by the members of this Club alone, besides numerous specimens of fruits, etc., on other tables. Nothing but absolute want of time shall prevent our dropping into one of their meetings the coming Winter.

Canadensis P. O.—Will some resident subscriber gratify our curiosity by telling why this Office or town was so named? In the Latin tongue, Canadensis is the Genitive (possessive) Case of the word Canada, but we can imagine no reason why a town in Monroe Co., Pa., should be so named, unless it be that "Canada thistles" do much abound there.—No imputation upon our old College friend who "farms it" there; he uses clean (composted) manure, and of course sows only clean seed, and doubtless keeps his land clean.—P. S. A friend at our elbow suggests that tan-bark has something to do with the name—the botanical name of hemlock being *Abies Canadensis*.

Good for Illinois.—W. H. Russell, L. L. D., who represents the London Times in America, and misrepresents America in the London Times, went out shooting in Illinois on a recent Sabbath, Sunday shooting being against the laws of that State, Mr. Russell was taken before a magistrate and fined \$30, the fine going to public schools. We are glad to learn that one of his "talents" is likely to be of some good to this country.

To Stimulate the flow of Milk.—A prescription, said to be popular among physicians in Germany, is Hufeland's formula, viz.: 1 drachm fennel seed, $\frac{1}{2}$ drachm dried orange peel, three drachms subcarbonate of magnesia, 2 drachms of white sugar. The whole to be mixed in powder, and a teaspoonful taken three times a day. This is for the human subject, and is said to produce surprising results. *Query.*—Why would not a larger dose affect milch cows favorably? The chief virtue is supposed to lie in the fennel seed; and an experiment with this alone might be tried.

Caked Bag in Cows.—Young Farmer. Boil a large handful of poke or garget root in two gallons of water, and after skimming out the roots, when boiled, use one third of the water in a mess with bran. Three messes will generally relieve the most obstinate cases.

Water for Swine.—"Subscriber," Rockville Center, Ill. Swine should always have free access to pure water, or at any rate it should be furnished to them daily, whatever may be the feed; nothing can supply its place for quenching the thirst of animals.

Feeding Bees in the House.—V. Frank, Jefferson Co., Ky. Bees, when shut in the house and fed, will not often do more than fill the combs they may have empty. They can not be induced to build much comb, without an opportunity to fly out frequently.

Tanning Skins with the Hair.—Geo. W. Goodwin, Litchfield Co., Ct. The following directions, republished from a previous volume of the *American Agriculturist*, have been found good: Stretch the skin tightly and smoothly upon a board, hair side down, and tack it by the edges to its place. Scrape off the loose flesh and fat with a blunt knife, and work in chalk freely, with plenty of hard rubbing. When the chalk begins to powder and fall off, remove the skin from the board, rub in plenty of finely powdered alum, wrap up closely, and keep in a dry place for a few days. By this means it will be made pliable, and will retain the hair.

Rat Killing Recipe.—Dr. Kellerman of N. Y., gives the *Agriculturist* readers his method of expelling rats. "Cut clean fine sponge in pieces of pea size, fry well in hog's lard and expose in infested places about the houses, barns, granaries, gardens, etc., at night, keeping cats and dogs shut up. The rats eat it greedily, but do not as readily digest it, the gastric juice, and especially water, if accessible for them to drink, swells the sponge, and a noise in random is the result. The dose proves fatal in most cases." We have seen the same thing recommended previously, but have never proved it. It may do, and is easily tried.

Onions and Vermin.—D. White, Bergen Co., N. J., in a letter to the *American Agriculturist*, says, it is a well known fact in his section of country, that when lousy cattle are pastured upon land infested with wild onions, the lice speedily disappear, and asks whether feeding onions to lousy cattle will be beneficial. Cultivated onions will probably have the same effect as wild ones, though there is some doubt as to the efficacy of either. It is easily decided by experiment. A better way is, to keep stables free from vermin at the first.

Manure for Fruit Trees.—S. H. We doubt if there is any such thing as "a specific manure" for trees. The best, perhaps, is well rotted manure, or a compost of muck, treated with lime, or with unleached ashes. Dig out the muck in Fall or Winter, and mix it with ashes at the rate of five bushels of ashes to one wagon load of muck. Let it lie, shoveling the mass together occasionally; it will be fit for use in Spring. This will contain nearly all the elements necessary to healthy growth of fruit trees.

Rostiezer Pear.—R. G. This is a first-rate Summer pear; wood is a dark olive, leaves large, fruit medium size, fair, very juicy, aromatic. Ripens about Sept. 1. Does well on the quince stock for several years, but after that its rampant growth becomes top-heavy.

"Largest Apple Tree in America." Kentucky must try again or yield the palm to Pennsylvania. The Kentucky tree, described on page 260 (Sept. *Agriculturist*), is 15 feet around. Lewis Kohler writes us that on the farm of Peter Kohler, Lehigh County Pa., there is an apple tree which, by actual measurement just made, is 17 $\frac{1}{2}$ feet in circumference, one foot above the ground. At nearly 7 feet high it is 15 $\frac{1}{4}$ feet around. It forks at the height of 7 feet, one branch measuring 11 feet 2 inches, and the other 6 feet 7 inches in circumference. The tree is 54 feet high, and the branches extend 36 feet

each way from the trunk. An old inhabitant, of the age of 93 years, says the tree is over 100 years old. It still bears every other year, the crop last year being about 40 bushels of sweet apples. Can any one excel this?

Planting Trees near Stumps.—"W.," of Bergen Co., N. J., inquires whether apple trees will grow when set near the stumps of others which have decayed, or in the places which they occupied. The only objection to the practice is, that the old tree may have impoverished the soil; otherwise we know nothing to make it unsafe. The difficulty can be easily remedied by thorough manuring.

Transplanting Laurel (*Kalmia*).—Mrs. T. Wilson, Winona Co., Minn., writes, that laurel abounds in northwestern Pennsylvania, and she thinks it might well be introduced into Minnesota. In answer to her several inquiries: Small plants may either be transplanted in Autumn, at any time before the ground freezes, or in early Spring. Those growing singly, not shaded by other trees, will bear moving best. Take them up with a ball of native soil, if possible, securing it in contact with the fibrous roots, by binding on canvas or matting, or even common coarse muslin. Several plants may be bound together. Put into any good soil, setting no deeper than they grew originally. With moderate care they can be moved successfully.

Keeping Grapes.—G. M. Usher, Richmond Co., N. Y., gives the following method of keeping grapes, by which he has preserved them until March: Gather them after the first frost, take out the defective berries, and lay them in boxes on cotton, each bunch separate from the others. Several layers may be placed in a box, with cotton between. Then bury the boxes in the ground (Mr. Usher places his in a potato pit.) When a box is opened, the fruit must be used soon, or it will spoil.

An Apple in a small-necked Bottle.—Upon our table is an apple 2 inches in diameter, in a glass bottle with only a $\frac{1}{2}$ inch neck. It was received from Mr. Thorp, of Flushing. The branch was thrust into the bottle soon after flowering, and the apple grew inside. The glass was nearly transparent and admitted light and air enough to perfect the apple. To preserve it from decay we filled the bottle with weak alcohol which has turned the skin dark; otherwise the apple is sound and perfect. We have frequently seen cucumbers thus grown to fill up large bottles.

Seedlings—Interesting Discovery.—In producing new varieties of double pinks, much patience and perseverance have been required. The best growers have been able to secure not more than 20 or 30 double flowering plants from a thousand seedlings. According to the Journal of the Paris Horticultural Society, a noted Italian cultivator, Signor Rigamonti, has discovered that on looking over a bed of seedling pinks, those plants which will turn out double will be found to have three leaves in a ring, while all the others will have but two. These three-leaved plants can therefore be selected and cultivated, and all the rest thrown away, which reduces the labor of propagation to one fiftieth or fortieth part of that formerly required. Signor R. found a similar marking of double flowers in the *Primula sinensis*. This discovery, if confirmed, will be of great value to cultivators, and tend to a rapid and economical multiplication of beautiful double varieties of these charming plants, and probably lead to the discovery of similar or other characteristics in other plants.

Flowering Hawthorns.—G. S. There are at least three varieties, the double white, double pink, and single scarlet. All of them are desirable shrubs of the larger size. The double sorts have the appearance of wreaths of miniature roses. The only drawback that we know of, is their liability to become infested with insects.

Chinese Chrysanthemums.—Elsie. Many varieties are in flower about Nov. 1st. Go to any good green-house, and you will find them in a blaze of bloom. They are a very desirable class of plants, easily managed, and blossom for a long time. Some of the best named plants, to our knowledge, are the following, for a dozen: *Lartay*, rosy lilac. *La Gitana*, bluish white. *Brunette*, red. *Solfaterre*, yellow. *Mignonette*, orange. *Lais*, purple. *La Plancee*, white. *Piquillo*, dark crimson or purple. *Louise Meiller*, creamy white, extra form. *Rose Pompon*, rose colored. *Sacramento*, orange yellow. *Grand Sultan*, carmine maroon.

The Best Noisette Rose.—D. K., Vienna. This will depend on circumstances. If you mean for culture in a green-house, we should say one thing; and if in the open air, we should say another. Supposing that

you intend the latter, we should recommend two, instead of one, viz.: *Aimee Vibert*, and *Caroline Marinette*. The first is pure white, blooms all Summer long, even up to hard frosts. The latter is like unto it, only that the petals are slightly suffused with pink. It is flatter, and less cupped than *Vibert*. They are both harder than any others in our collection, going through the Winter very well, if protected with a few inches of soil or litter.

Preserving Grape Cuttings.—"John." Cut the canes in convenient lengths, leaving three buds on each; select a dry spot in the garden, take off about one foot of soil, lay in the cuttings and cover them with a foot or more of earth, rounding off the heap firmly, so as to shed rain. In a wet place, the buds would be spoiled. Some persons take them into a cool part of the cellar, and bury them in sand or common earth.

Counterfeiting Apples.—Yankees **Odious.**—Hitherto, when it has been desired to express the highest degree of financial acuteness, we have referred to the Yankee who sold wooden nutmegs, or to the one who turned his refuse shoe-pegs to account by sharpening the other end and selling them for oats; or finally to the seller of "Suffield indigo," i.e. blue colored cakes of starch. But Johnny Bull is now a little ahead. Mr. W. L. Scott, in a recent lecture before the "London Society of Arts," says the fruit dealers in England are selling painted imitations of the American Newtown Pippins; stale oranges are colored up bright and new with saffron; melons and cucumbers, when rusty, are brightened with acetate of copper (verdigris); while they are sending to our country, Cayenne pepper manufactured from old ship bread which is first soaked in a solution of genuine pepper, then dried, and colored if needed, then ground fine with a little lime, and put up in boxes labeled with the royal arms and marked "pure."

Spontaneous Combustion of Manure.—A subscriber inquires if there is any danger of spontaneous combustion in manure and straw under a barn if it be not frequently stirred. We have heard of no such instance. Oily materials with straw might take fire. (See page 259, September *Agriculturist*.) Manure is injured by "fire-fanging" as it is called, that is, if allowed to heat to dryness in a heap.

Manure from Tanneries.—G. E. Palen, Monroe Co., Pa., (whom we remember as an old fellow student in the Yale College Agricultural Laboratory,) writes that he obtains an excellent manure by composting together the refuse from hides and lime from vats, with the spent tan bark. By placing them in alternate layers and allowing the heap to remain a year or two, the whole is reduced to a fine mass for spreading. It has at least one advantage over yard manure, in that it contains no seeds of weeds or noxious plants.—The hide clippings must furnish a very good fertilizer, the good qualities of which are mostly retained by the tan bark, if not subjected to the washing of rains.

Keeping Turnips Fresh.—Take up on or before November 1st. Cut off the leaves about an inch above the roots, carry the latter into the cellar or pit, cover with straw, and then throw on six inches of dirt. These will keep sound until February. After this, Swedish turnips will answer until Spring. They may be pitted in a dry place out of doors, covered with three inches of straw and one foot, or a foot and a half of earth. When opened they will be as sound and nice as when first dug.

Sample of Oats.—G. W. Goodwin, Litchfield Co., Conn. The sample of oats which you forwarded to be named, are of the Black Poland variety, an excellent sort, in high esteem with those who have raised them. We have none of the rye for which you ask.

Crops in Iowa Injured.—J. Alexander, Linn Co., Iowa, writes, that the wheat crop of that State, a large part of which was stacked out, was much injured by recent heavy rains; also that much damage was done to corn, which was beaten down.

Large Wheat Yield in Wisconsin.—The *Sheboygan Zeitung* (Wis.) states, that Mr. Karpe, of Plymouth, threshed 225 bushels of winter wheat from 4 $\frac{1}{2}$ acres. This is 50 bushels per acre, and Mr. K. claims the championship, until some one else in Wisconsin, or other Northern State, can make a larger show. The *American Agriculturist* likes to record such fine crops, but always prefers to tell how they are obtained—on what kind of soil, with what kind of treatment, and what the variety of wheat sown.

Grain in Chicago—Railroads.—There is better reason for calling Chicago "*Grainopolis*," than

for naming Cincinnati, *Porkopolis*. (*Polis* means a town or city.) Less than a dozen years ago the total grain business of Chicago was not half a million bushels a year. During the past year the receipts of grain in that city alone amounted to over thirty-five million bushels, sometimes reaching nearly or quite half a million bushels a day. There are fourteen large steam elevators for transferring grain to and from cars, boats, and storehouses. The storehouses have a capacity for over five million bushels.—The increased value already given to the grain, and to the lands producing it, would more than build all the vast networks of railroads terminating in Chicago. Most of the money to build these roads has come through Wall street in this City. We hope Western farmers at least, are learning to look upon railroad men as friends, and not as monopolists to be taken every advantage of possible. We can better excuse the prejudices of Eastern farmers, who look upon these railroads as agencies for bringing strong competitors to their markets.

Weevil in Grain.—George Lindsay, Westmoreland Co., Pa. When grain is infested with weevil, it should be threshed at once, and if possible dried in a kiln, which will destroy the insects. Many of them will be driven from the grain by passing it through the fanning mill. It has been recommended to fumigate grain bins so infested, with sulphur. Stop all cracks tightly, place the sulphur in an iron vessel, set it in the middle of the bin, light it and close the door; this it is said will kill most of the vermin. It is best not to store grain for several years, where the weevil have taken quarters. *

We've got a Premium.—At the recent Queens Co. Agricultural Show, by way of helping out the Exhibition, our gardener filled up a pretty long table with sundry garden productions, vegetables, flowers, etc., etc.,—to the amount of three wagon loads. Intending to leave the field clear for others, cards were put up all over our table marked: "FOR EXHIBITION ONLY." But it seems that a big cabbage, or beet, or something else jutted out too far, and seizing upon this the Committee on "Vegetables and Roots," generously awarded us a premium. Query: What would they have given us if the whole table had been labeled "FOR COMPETITION?" Another joke is the fact that the prize awarded was one of our worthy \$2 cotemporaries, with which we already exchange two copies. We suggest to the Committee that the joke would have been a better one still had they awarded us a copy of the *American Agriculturist*, of which we see a considerable number of copies were given to others as premiums. That we could have appreciated, and we hope the change will yet be made. As it is, we feel slighted, and propose an immediate "Mass Meeting" of all the disappointed ones at all State and County fairs in the country.

Spades and Shovels.—We have a long communication from Mr. J. Stevens, complaining that manufacturers do not make a sufficient variety of spades and shovels to suit the wants of persons of different heights. A dealer, to whom we submitted the letter, says he has kept on sale 15 to 25 kinds and sizes, but that not more than a dozen kinds are ever called for, while nine teen out of twenty purchasers choose the smaller sizes, alleging that one of these is large enough to exhaust the strength of any man who will use it industriously during the entire day. We have one with a blade 14 inches long and 10 inches wide, and the handle proportionately long, but except for deep trenching it is not so convenient for breaking up the soil finely, and for rapid work, as one of the smaller dimensions. For breaking up and pulverizing a plot of ground, the spading-fork is preferable to the full-bladed spade. We think Mr. S. must have overlooked a number of establishments, or he would have found just the spade he describes as being desirable. At least any manufacturer would cheerfully furnish almost any thing in this line that he could possibly ask for. We submit to manufacturers, however, Mr. Stevens' suggestion that a part of the ordinary spades be provided with handles somewhat longer than those in common use. What is lost in power by the use of a long handle, may be gained in saving a tall man the necessity of bending his back.

Unit of Horse-Power.—Answer to queries from several readers of the *Agriculturist*. The average power of a horse is reckoned as equivalent to the raising of 32,000 lbs. one foot per minute, and this is the unit of measure in estimating the power of steam engines, etc. A horse walking at the rate of four miles an hour, travels 352 feet per minute. Going at this rate, he would only have to pull on a rope sufficient to draw up a weight of 91 lbs. (nearly), to exert the same power as would be required to raise 32,000 lbs. one foot in a full minute. If traveling only three miles an hour, the constant weight to lift would be 121½ lbs. If traveling ten miles an hour, the average draught would be about 36½ lbs. By recent enactment, the Austrian government has

fixed the legal horse power for that empire at 32,982 85 lbs. (or nearly 33,000 lbs.) raised one foot per minute. (430 Pfund raised 1 Fuss per second—76 kilogrammes raised 1 metre per second.)

Setting Fence Posts.—Wm. McLachler, Onondaga Co., N. Y., advises to fill the holes around posts with sand or gravel, when setting them, to prevent their being heaved out by frost. A surer remedy is to drain the adjacent ground, and thus draw off the water which causes the heaving by freezing and thawing. Water, or water saturated soil, expands much more in freezing, than mere damp soil. Dry soil contracts with cold. A soil freed from standing water, will heave very little by frost.

Pump Wanted.—"H. A. S." Middlebury Vt. suggests to inventors that a pump is needed for supplying pastures, where there is no running water, and other locations distant from the residence of the owner. He thinks a pump to be worked by electro magnetism, made cheaply, might be contrived to work with little attention. It would not need to be very powerful, as a very small continuous stream of water would be sufficient.

Prolific Sow.—S. Dodge, Essex Co., N. J. reports to the *American Agriculturist*, that a sow, owned by him dropped 17 pigs in September last; 16 of them are living at this date, Oct. 15th, one having been overlaid and killed. The sow is a very large animal, partly of Berkshire breed. Do any of our readers know a case of greater prolificness?

Drumming out Rats.—A subscriber at Farmington, O., writes that rats will not remain in a building where a drum is beaten occasionally. This may be so; the idea is confirmed by another correspondent who relates that the rats left his corn cribs, when a hand-sheller, that made a great racket, was introduced. No doubt an unusual noise would frighten them away at first, but we imagine they would soon become accustomed to it, and remain undisturbed.

Refuse Oil for Sheep Ticks.—"S. S. D." Dayton, O., writes to the *American Agriculturist*, that a neighbor of his destroyed sheep ticks by liberal application of the sediment from an oil cask to the skins of lambs that were badly infested with these vermin.

Cleaning out Vaults.—P. Jager, Columbia Co., N. Y. Those following the business in this city, use long handled shovels, ladles, and buckets, and do not enter the vault. Much was hoped from a plan to construct air tight boxes or carts with a hose attached to run through the house from the street, and into the vault. An air pump was to exhaust the air from the box, and the contents of the priory were to flow in and fill the vacuum. This might answer if the contents were sufficiently liquid. The plan did not work well, and has been abandoned for the scoop and buckets.

Salt Mud.—"W. B." Westchester Co., N. Y. The vast deposits of black muck and peaty matter, along the margins of salt water, do not greatly differ in character and value from the inland fresh water muck swamps, and their treatment is similar. Some think the salt muck the most valuable of the two, owing to its chloride of sodium (salt) and other mineral substances, and this is probably the case where these are not counterbalanced by excess of fine sand washed in by waves. The only practicable treatment we can recommend is to remove it to dry land, adding lime, unleached ashes, or refuse potash, to decompose it. After being awhile mixed with alkalis, it may well be added in unlimited quantity to the yards and stables to absorb all the liquid manure, and be composted with the more solid manures. It may be used with manure in considerable quantities without any previous alkaline treatment, but with this previous addition the quantity can be largely increased. After alkaline decomposition, it may be used directly upon and in the soil. Untold millions of dollars worth of produce will yet be raised with the aid of our unlimited deposits of black vegetable material along our sea coasts, bays, etc.

Home-Made Bone Manure.—A. F. G., of West Gardiner, Me., writes to the *American Agriculturist* that he makes a good bone manure thus: A kettle holding a barrel or more, which is kept for boiling roots for stock, is filled with bones, and caustic lye poured in to cover them. A gentle fire is built for two or three successive days, to barely warm the liquor through. In a week the bones become soft and fine. The mass obtained from one barrel of bones is then mixed well with about three loads of muck, the leached ashes from which the lye was obtained, being mixed with the heap. After lying awhile for the muck to partly decompose, the fertilizer

is ready for use, and produces good effects. If not the best mode, this is certainly one easily practised on most farms, and it is far better than to let the bones go to waste.

Hydraulic Lime not Injurious to Water.—W. W. Dashiell, Sussex Co., Del., inquires, whether the water will be affected by the lime if a well be walled up with rough stones laid in mortar made with Rosendale cement. We should say decidedly not. After the mortar has thoroughly set, chemical tests scarcely discover in the water a trace of lime or other material derived from the cement. We use for drinking and family purposes only pure "distilled" water, as it falls from the clouds upon an upper roof, and is retained in a cistern well coated with hydraulic lime mortar. It is far purer, and sweeter to the accustomed taste, than the purest spring or well water.

Why so few Pears.—Everybody is fond of good, melting, juicy pears. Two to ten cents a piece is readily paid for all the passably good pears brought to our market, and there is always a call for more. We have seen many baskets of pears, holding a scant bushel, sold for \$4 to \$6 a basket this year, and higher prices are frequently paid for early lots of good Bartlett's. A correspondent of the *American Agriculturist*, in a long communication on this subject, argues that pear trees, where once well growing, are very productive and profitable. His conclusion is, that the high price asked for good trees by nurserymen, is the main reason why so few plant pear trees. He had intended to plant an acre of Bartlett trees, but found that the trees alone would cost him \$80. But according to his own story, the pear orchard would pay well on that preliminary cost, and he admits the difficulty experienced by nurserymen in producing a lot of really good trees. There is undoubtedly a demand for more good pear trees at moderate cost, than can yet be supplied by nurserymen, and it stands them in pocket to make up the deficiency as early as may be. There is likely to be a demand for all the good pear trees that can be produced at moderate prices for some years to come. Nurserymen would do well to devote more attention to getting up a stock of a few really good sorts, and less to having a large catalogue of good, bad and indifferent trees. We have seen several collections of 50 to 100 varieties of pears on the tables of our fairs this year; but among all these there are seldom more than a dozen kinds really worth cultivating.

Raising Seedling Grapes.—W. G. Felton, Chester Co., Pa. The seeds should be put in sand or earth as soon as taken from the fruit. Keep it moderately moist until next Spring, then plant in drills in a favorable location. It is generally considered advisable to sow seeds from improved varieties; there is however no certainty as to whether the produce will be valuable or worthless. It is considered good success if one seedling in a hundred proves valuable.

Seedling Grapes.—J. N. Hawkins, of Suffolk Co., L. I., sends to our tables two varieties of new seedlings. The small purple clusters are not worth propagating—hardly equal to some of the wild fox grapes. The others are very fine; clusters large and well shouldered; berries of good size, round, thin skin, little pulp, sweet, and light color, strongly resembling the Rebecca. It is said to be a seedling from the Isabella, and has been named the "Hawkin's White." If hardy, prolific, a good grower, and free from disease, it will be a decided acquisition.

The Finest Delaware Grapes we have seen, were in a box placed upon our table by B. H. Mae, of Newburg, N. Y., as our last number went to press. The bunches were large, well packed, and many of the berries measured five-eighths of an inch in diameter. Mr. M. says he has obtained them three-quarters of an inch in diameter. The demand for vines has hitherto prevented much attention to the production of the best fruit. Many are now turning their attention solely, or mainly, to fruiting, and the specimens before us indicate what may be done.

Raisins from Grapes.—P. Wright, York Co., Pa. Raisins are ripe grapes, dried without being pressed. In Southern Europe, whence we receive most of our raisins, the selected clusters are spread on smooth clay banks, sloping towards the sun, with a wall upon the north side. A movable shelving cover is placed over them at night, and during rains. The clusters are carefully turned once during the process. A little artificial heat would probably be needed in our country, or at least in this latitude. The grapes used are sweet sorts, such as Muscatelle, Malaga, Black Smyrna, etc. The "dried currants" are really a small variety of grapes, dried in the manner described above.

Tokay Wine.—Suggestive to Grape Growers.—The celebrated Tokay wine, the finest in the world, it seems is not produced on so small an area as has been reported—two or three vineyards—but the Tokaj, or Hegyalja vineyards cover 60,000 acres, yielding 1,675,000 gallons of wine, of which 50,000 gallons are superfine, 375,000 gallons superior, and 1,250,000 gallons ordinary. The land is dug over three times; the vines are placed 1½ feet apart, only three to five buds being left on each stock, and the vines are trained to stakes and only allowed to grow three or four feet high. The soil is poor and volcanic, and is never manured. The Tokay wine comes from grapes ripened on the sides of mountains, where the air is dry and in constant motion, and the sunbeams are never intercepted. In these places the vine disease is wholly unknown. These statements, gathered from a pamphlet upon the wines of Hungary, recently published by a Hungarian gentleman, M. de Szcmere, are suggestive to grape growers.

Frauds in Wine.—It is claimed that an abundant production of grape wine in this country would alleviate the evils of intemperance, by supplying a light, pure, stimulating drink for the masses. This does not seem to be the case in France. In Paris, and in Cotte, in which are the principal manufactories of fraudulent wine, the business is carried on to an enormous extent, and so perfect is the process of imitation, that the chemists can no longer detect and expose the fraud. A competent authority states, that it is certain that there is not a drop of grape juice in more than half the vast quantities of wine drank by the people of Paris. Of the many millions of bottles of wine imported annually in this country, at high rates, and drank under high sounding names, with much smacking of lips, it is morally certain that not one bottle in a thousand is anything more than a chemical concoction of alcohol and drugs, without a teaspoonful of grape juice in a hogshhead.

Dry the Green Lima Beans.—Whether the frosts come early or late, there will always be some unripe pods on the Lima bean vines. If large enough to shell at all, they are worth preserving. We generally save a fair Winter's supply of these green beans by simply shelling and drying in the sun, on a warm side of the house, or on the piazza roof. They cure and keep well, and when cooked in Winter and Spring, are almost as tender and good as the green beans picked from the vines and cooked in Autumn.

Making Lima Beans Perennial.—It may not be known to all the readers of the *Agriculturist*, that Lima beans, and the pole beans generally, can be continued in growth from year to year, without new seed. In Autumn, before the leaves are withered by frost, remove the runners, leaving a foot or so of the main stalks and leaves. Take up the roots and plant in pots or boxes of earth, and set them in a light, airy cellar, or other room, where they will be protected from the frost. A green-house is preferable, but not essential. Keep the earth moist, but not wet. Light and just warmth enough are required to promote the growth of a few roots and incipient leaves—in other words to keep the plants alive. In Spring they will begin to grow well, and as soon as frosts are over they can be set out in the open ground, where they will start into vigorous growth, and produce large vines, and a good crop of beans a month or more earlier than those raised from seed. In Autumn, the same roots may be again taken up, and so on from year to year, making the bean in reality a perennial. Simply to lay the plants in sand in a cellar, and keep them in an entirely dormant state, has not proved successful, so far as our experiments have gone.

Keeping Sweet Potatoes.—"Subscriber," Coffey Co. Kansas. Sweet potatoes keep through the winter best, when covered in a dry sand hill, or other dry earth beyond the reach of frost. They may be put in boxes of one bushel each, or spread into layers in the bottom of a pit, and cover with dry earth. They should be carefully dug and handled previously, so as not to bruise them. For use during early winter before opening the pit, pack some in boxes of sand or dry earth and keep in a dry place away from frost.

English Speckled Pea.—N. B. K., Lowell, Penobscot Co., Me., writes that he planted some of these among potatoes, on highly manured land, and had an extraordinary growth of haulm, some stalks measuring nearly 8 feet in length. From one pea he counted 84 pods, measuring 6½ feet in length.

Winter Barley.—A sample of 6-rowed barley, from Chas. Chapman, Ottawa Co., C. W., is very fine; straw large; heads 10-12 and 6-rowed; claimed to yield remarkably well. It is said to have been "bred up" from a single head of large size found in England.

Muck for Bedding.—S. B. Tomkins, Ulster Co., N. Y. Dry muck answers a good purpose as bedding for cattle. About half a cord will last one animal two weeks. It should be thrown out and replaced with new, when saturated with liquid manure. The solid excrements should of course be thrown out daily.

Premium Butter.—J. Perkins, Cuyahoga Co., O. writes that he has taken the premium of \$2 at their County Fair, for butter made and kept according to a hint derived from page 138, May *Agriculturist*. That item alone pays him for two years' subscription.

Cypress Vine.—R. T. Your seeds would probably have come up, had you soaked them in warm water before sowing. Let the water be brought just to the point of scalding, then pour into a saucer, and let the seeds lie in it for three or four hours. They will then almost surely vegetate.

Raising Fig Trees.—Cynthia M. Green, Broome Co., N. Y. Figs are difficult to raise from seed. Better get one or more trees of such kinds as are desired, from a nurseryman, and increase the stock at pleasure, by means of cuttings put into the ground in Spring. They root as readily as currant bushes. Layering the branches is still better. Before severe frost, gather up the branches, tying them with a strong band, and set over them hogshheads or barrels without heads, and fill up with earth. If too high for one hogshhead, set another on top of the first. They may also be banked up with earth, or bent down and covered with soil. With this simple protection, figs may be readily raised in the Northern States.

Hot Sand for Drying Flowers and Leaves.—Many flowers and leaves that will not retain their color when dried in the air, or between sheets of paper, can be cured so as to preserve their tints, as follows: Heat a quantity of fine clean sand in a kettle or other vessel, too hot for the hand, but not hot enough to char a piece of white paper left in it. Spread a layer of this an inch or so deep; put over it a sheet of white blotting paper, or herbarium paper; lay on the flowers or leaves; cover with another sheet of paper, and add more or less hot sand. Flat leaves may be covered with a thick layer; more delicate flowers should have little sand over them, or their petals will be crushed. Some succulent plants may need several successive dryings to remove all their juices, while a single treatment will answer for others. A little practice will enable any one to successfully cure most kinds of plants, which dried thus generally retain their natural green or other colors, instead of turning brown.

Books on Barns and other Farm Buildings.—"G. E. P.," Canadensis, Pa. We know of no work specially devoted to farm architecture. "Allen's Rural Architecture" (\$1.25) gives many practical hints on barns and all other farm structures, though we should not build a barn exactly like any of the plans proposed in that work, or even like those described in the Seventeenth Volume of the *Agriculturist*, (1858). That volume, by the way, contains a pretty full discussion of farm buildings, with illustrations, running through nine months, and includes laborer's cottages, farm houses and appendages, ash and smoke houses, barns, stables, carriage houses, cart and wagon sheds, workshops, turkey and hen coops, piggery, poultry, and pigeon houses, etc. (Price in numbers, post-paid, \$1.12,—bound \$1.50, or \$2.00 if sent by mail.) A premium plan for barn and carriage house combined, was published in July, 1860 (Vol. 19). In August following is a plan of our own barn and carriage house, which, after a year and a half's trial, we think is the most complete one we have yet seen for the same purposes.

Record of the Times.—A comprehensive history of the current events, giving for present reference and future preservation, the principal facts and incidents occurring in this eventful period, is now being issued by John D. Torrey, Publisher of this city. The work is valuable, as it embraces in chronological order a general and concise, but full record of what is transpiring, and it appears to be prepared with industry and care to make it authentic. All who wish to read and preserve, apart from newspaper rumors and reports, the great facts and incidents of the time, will be glad to secure this work. It is issued in weekly numbers at 10 cents each, and in semi-monthly, and monthly parts at 20 and 40 cents each.

Not Economy.—An assistant, after reading a proof of our article in the Household Department on Economy, and other articles in the same vein, suggests that we are "cutting our own fingers off"—for the tendency will be to lead people, in their efforts to economize,

to drop the *Agriculturist* also. Well, if that be the case, we must suffer, and will cheerfully bear our part—for we believe, and must therefore advise, that people ought to economize now. But the feared result is hardly to be expected. If the *Agriculturist* has pointed out a way to save five dollars this year, or suggested any means of increasing the product of the labors of the field, garden, or house, to the amount of five or ten dollars only, it will be quite likely to do the same thing another year, and it would seem to be the best economy to have it on hand. We do not believe a single person has received this journal for a year without having been directly or indirectly benefited more than five dollars. It is not always that one is cognizant of the origin of his present way of thinking and practice. The thousand facts, hints, and suggestions given during a year in a journal like this, enter into a person's thoughts, and lead to other thoughts, without his being aware of it at the time.

Knighting the Plow.—The French are about instituting a new order of knighthood, to be conferred upon the most successful farmers, of whom one in each Canton is to receive the "Medaille Agricole," which represents an annuity of 100 francs from government.

Probably True.—A gentleman, whom we recognize as cashier of one of the leading banks of New-Hampshire, in a letter respecting some horticultural matters, incidentally adds the following: "...The *Agriculturist* has come to be almost one of the necessities of life. ... Millions of flowers in many thousand of gardens, scattered all along from Canada to Mexico, and from the Atlantic to the Pacific, spring into life by its agency and influence. Its hints make numberless gardens to be better tilled, and their owners more happy, over this immense extent of territory. Its impression for good is made upon both the out-door surroundings, and upon the families within, so much so, that one who knew enough could read its 'cypher' on thousands of homesteads...."

Indirect Influence.—We would not over "magnify our office," but many testimonies, of which the above is a specimen, are certainly a source of satisfaction. The direct influence of the *Agriculturist* upon its vast circle of readers is doubtless large, but even this is scarcely equal to its indirect influence. We exchange with nearly two thousand other journals, and most of these are all the while copying the more valuable hints and suggestions of the *Agriculturist*—too often without credit. The articles and items thus copied, are passed along from one journal to another, so that they form the great staple of the agricultural, horticultural, and household columns of the three thousand journals of the country. A recent examination of a large number of papers showed that much more than one half of all the good items and articles, pertaining to farming and gardening, that are now circulating in the country, were originally prepared for and appeared first in the columns of the *American Agriculturist*—though scarcely a tithe of them have retained the credit of their origin. A contemporary editor recently remarked that he had found this to be so much the case, that hereafter when he copied any good agricultural article, going around without credit, he should, as a matter of course, credit it to the *American Agriculturist*.

Horse-Shoes for Snow.—A correspondent of the *American Agriculturist* suggests that the balling of snow on horses' feet may be materially lessened, by making the upper side of the shoes wider than the lower side, so that the inner edge will be beveling outward. If constructed in this way, the balls of snow would more readily fall out than if held by square-sided shoes. The suggestion is not a new one—at least we have heard of it before, we believe—but it would seem to be valuable, and worthy the attention of blacksmiths, or those who have horses to be shod. At best, damp snow will pack into the shoe, but if the lower side of the opening be the widest it will be more likely to drop out.

To Prevent Ivy Poisoning.—George P. Ray, Marion Co. Mo., writes to the *American Agriculturist* that Ivy poisoning can be prevented by washing the exposed part with a solution of sal soda, or with strong ley of wood ashes. W. Olds, Whiteside Co., directs to wash with a strong solution of epsom salts, which he says will effect a speedy cure of the poisoned parts.

Liniment for Chronic Rheumatism.—Among several recipes for different forms of rheumatism, the American Druggists' Circular gives the following prescription for the chronic form: Mix 2 ounces of Camphorated soap liniment, ½ ounce of tincture of cantharides, ¼ ounce tincture of opium (laudanum), and 1½ drachms of iodide of potassium. This mixture or compound liniment is to be occasionally rubbed upon the parts affected.

Hardy Cotton.—The Lebanon Democrat Pa., states that Dr. Reinhard, a German Physician of Lancaster Co., has found a species of cotton plant in Brazil, which thrives well in a climate as cold as that of Pennsylvania. Dr. R. predicts that in a very few years plenty of cotton will be grown in the State of Pennsylvania.

Of the Cotton Plant referred to last month, we have little to say in answer to the numerous letters received. We only intended to place before the public Mr. Kendall's own statements and put him in communication with those disposed to investigate the subject. A plant having the merits he claims for this, is worth looking after. It seems rather singular, however, that we have not long since heard more of it, if it grows so abundantly on the much frequented coast of South America.

Making Cloth Non-inflamable.—The recent burning to death of 7 females in Philadelphia, by their clothes taking fire from a gas light, recalls attention to the importance of rendering non-inflamable the light fabrics worn by ladies or children who are in any way exposed to fires or lights. Any cloth, even the most delicate cambric or gauze, is not injured in the least by dipping it in a weak solution of chloride of zinc, or sulphate of ammonia, or tungstate of soda. If thus dipped before drying the fabric may be burned to a crisp, or entirely destroyed in the flame of a lamp without bursting into the least flame. These articles, particularly the first two, can be obtained very cheaply of any druggist. The last named is rather the best of the three, but more expensive.

Cheap Home-made Embellishments for the House in Winter.

We do not refer now to furniture, paintings, books, engravings, or anything of that sort; but rather to floral embellishments. The many colored *leaves* which strew the ground in Autumn, if gathered and pressed and varnished, may be wrought into beautiful wreaths and bouquets, which will hold their colors all Winter. Fasten them leaf by leaf to a piece of Bristol board with gum arabic, in such order as female taste will suggest, and the effect will be very pleasing. Many Autumnal *flowers* may be treated in the same way. When the bouquet is completed, insert the Bristol board in a gilt frame, cover with glass, and you have the effect of a fine painting.

Much use can be made of another class of flowers, which go under the general name of "everlasting flowers," or *immortelles*, as the French have it. These are employed for filling vases to adorn mantels and tables. They have some advantages over common house-plants, in that they need no watering, are not hurt by frost, or infested by insects, and are sure to blossom all the while. They retain their colors for several years. Who does not want a bouquet of everlasting flowers? We must try to get seed enough for our Winter's distribution, so that all who desire may have a supply of these flowers next Autumn. The *golden* everlasting flower, glossy and brilliant, is one of the commonest. Sow the seeds early in May in any garden soil, and they will mature before frost. They should be gathered before the seed vessels are quite mature, or the blooms will fall in pieces when dry. There is a *white* variety of the same species which is quite desirable.

The *Globe Amaranth*, (*Gomphrena globosa*), is another first rate Winter flower. The varieties are numerous—white, pink, purplish crimson, striped, and orange. These will also grow from seed in any warm spot. But the seed being covered with a tough shell, needs to be soaked a few minutes in scalding water before sowing, or in tepid water for twenty four hours, otherwise it will not certainly vegetate. Cut the flowers as soon as they are fairly matured: if left longer they will lose their brilliancy.

Beside these, there are some newer sorts of everlastings, such as the *Xeranthemum*, white and purple, the *Acrolineum*, white and pink, very delicate and beautiful.

The foregoing may be worked up into bouquets, using with them some of the ornamental grasses, such as *Breza maxima* and *minima*, whose pendulous and graceful spikelets will contribute much to the finish of the whole. Some of our wild grasses found on the borders of grain fields, have feathery plumes which may well be added.

It is not too late now to provide all or nearly all of these plants. The pressed leaves and flow-

ers first referred to above, may hang upon the walls of parlor or chamber; the others wrought into bouquets of various styles, may occupy vases on the mantel and bracket and on the side table, and with their perennial freshness cheat the long Winter days of much of their dreariness.

Prices of "Breadstuffs"—All Classes Interested.

This is a subject that comes home to every one. The cultivator who derives his living from the soil, is of course directly interested. He may not raise wheat, corn, or rye for market, yet the values of most other products of the soil are governed by the market value of the great breadstuff cereals—wheat and corn.

The mechanic, the manufacturer, the factory operative, the merchant, the day laborer, the needle woman, are all interested in the supply and the price of these leading products of the soil which constitute the staple food of all classes. And just here we must correct a false impression. There are probably fifteen or twenty thousand persons engaged in other pursuits than agriculture, who take and read this journal for the benefit of their gardens and households. One of this class, in a letter before us, says:

"...The *Agriculturist* seems to be always jubilant over any rise in the price of wheat, flour, or corn. Does the Editor have any sympathy for that large class of his readers who are compelled to pay the increase in price from their scanty earnings? This year we, factory operatives in this town, made up a club of 130 subscribers for the *Agriculturist*, and we have been applying its hints and suggestions in our little garden plots, and have gained much therefrom, in pleasure at least. But what shall we think of the constant rejoicing of our editors over the rise of a dollar a barrel, or more, on the flour which we must buy, or starve...."

Our correspondent takes a short-sighted view. Let us look into the matter a little. Suppose that from the surplus wheat crop of the present year, including that left over from the previous year, we can spare from the whole country say 60,000,000 bushels, and that the demand be sufficient and the price high enough to cause its exportation. Without this demand and increased price abroad the grain would of course remain upon our hands. The exportation of this wheat (or its equivalent in flour) brings back in some form, about *seventy-five million dollars* (\$75,000,000). Is it not obvious that this positive addition to our wealth must be felt throughout all the ramifications of business. If the farmers receive half of it, and the dealers and employees on our lines of transportation, storehouses and ships, receive the other half, they have just so much more money to pay for manufactured articles, etc. This will necessarily create more trade, and increased demand for the labor of manufacturing operatives. For example: early in the present year many of the factories of New-England and elsewhere stopped work, or run but half time, and the incomes of vast multitudes were reduced half or more. But the foreign demand for breadstuffs has quickened the whole business of the country, and it is safe to say that the manufacturing classes are now getting double the work and pay that they could possibly have done but for the increased foreign demand and higher prices of breadstuffs.

But how much is the manufacturing laborer taxed by the higher prices? A family of four persons ordinarily consume about one barrel of flour in three months. The rise of even \$3 per barrel in the price of flour, is only a tax of \$1 per month upon such a family, while the increase of

\$3 per barrel on the flour made from 60,000,000 bushels of wheat, would be a real gain to the country of thirty-six million dollars (\$36,000,000!)

We think these figures will convince not only our particular correspondent, but all others, that in this great agricultural country, we are *all*, no matter what individual callings may be, specially interested in having the price of our agricultural products range at the highest possible figures, provided the high rates be not the result of a short supply from crops here, but of a large foreign demand. After this showing, we trust even our manufacturing readers will have a livelier interest in the facts and figures relating to the breadstuff commerce both in our own and foreign countries. We congratulate ourselves on the fact that for months past the *Agriculturist* has been in advance on this subject. We have endeavored to inspire hope for the future, at least, by constantly showing that there would of necessity be a short foreign crop, and a consequent demand upon this country. In this, we have not rejoiced at the losses of our transatlantic brethren, but we have seen in it a new evidence of the over-ruling hand of a kind Providence.

This country is involved in one of the most important struggles in the history of the world—a struggle to establish whether or not a republican representative form of government is adapted to the wants of the great family of man. It is a question in which not we alone are interested, but it directly concerns the people of all the world, and unborn millions after us. If the experiment that has been going on here for 85 years past should or could now prove a failure, when, or where would another be made? We are daily more and more impressed with the kindness of that Providence, which has so ordered that other nations who are almost equally interested with ourselves, and who can now afford it, should come to our assistance. Direct aid or intervention in our affairs would be neither desirable nor expedient; but no more effective aid could have been given than the sending us a hundred millions of dollars for the surplus produce which have been kindly bestowed upon our country by Him who sendeth the early and the latter rain.

Prospects of Farmers—The Produce Markets—The Great Foreign Demand.

The activity in the New-York Breadstuff Markets, referred to in our last, has continued without abatement. The exact figures and statistics will be given in our Market Review, not yet made up. As the future market here will be so largely dependent upon the course of trade in Europe, it will interest our readers to learn further concerning the foreign grain prospects. The important summary of the Breadstuff trade for the last Grain year, which we gave last month, has been widely copied. We there stated, with the reasons for the assertion, that "there is, and is to be for some time to come, a heavy demand upon our markets to supply the deficiency of breadstuffs in Great Britain, and especially in France, and to some extent in other parts of Europe;" and that "all the surplus we can well spare at anything like present prices will be called for abroad, even if to be paid for in gold." But these strong statements feebly expressed the actual condition of the foreign demand. On the very day our article was written, Sept. 16, the London *Mark Lane Express*, the highest authority on such matters in

Europe, published an editorial article on the state of the British and French Corn (Wheat) Markets, including a translation of authentic reports from forty-two important grain districts in the latter country. Without following the language or order of the long summary of the *Mark Lane Express*, we will condense some of the statements, and the conclusions arrived at:

1.—France has been generally, and particularly for two or three years past, an exporter of wheat. This year, not only is there no old stock of wheat in that country to fall back upon, but the deficiency in France alone is estimated at 8,000,000 quarters, or **sixty-four million bushels!** The Government is alarmed, and has not only thrown open the ports to free importations of grain, but the indications are that measures will be taken to prohibit export, should higher prices elsewhere make such prohibition necessary to retain all the grain in, and to come into, that country.

2.—The Roman Government has already issued a prohibition against any export of grain, and the measure will probably be followed by all the other Italian States. These indications are mainly important as showing that, with some few exceptions, the deficiency in the past harvest has been general throughout Europe.

3.—In the great wheat-growing Baltic Provinces the harvest was less productive than usual, and there will be less to export this year.

4.—Spain, Belgium and Holland will be buyers of grain this year—an event that seldom happens.

5.—In Great Britain, says the *M. L. Express*, it has now become evident to every one at all conversant with harvesting affairs, that the wheat is not only deficient in yield, but also that the breadth sown was much less than the average.

6.—In Great Britain the average annual consumption of foreign grown wheat, for the past eleven years, has amounted, in round numbers, to 5,000,000 quarters, or 40,000,000 bushels a year. (The importation of wheat into Great Britain for the past year was ten and a half million quarters, or 85,000,000 bushels, nearly all of which went into consumption, in addition to the home growth of the harvest of 1860.)

7.—The average annual wheat crop of Great Britain is about 120,000,000 bushels, we believe. For the harvest of 1861, taking into account the low yield, and the limited breadth sown, the deficiency can not be estimated at less than one-fifth, or 24,000,000 bushels, which added to the average importation, makes the foreign demand this year for Great Britain alone **64,000,000 bushels!** [The deficit of 24,000,000 bushels for the current year is probably under-estimated if anything. Some place it at fully one-fourth or 30,000,000 bushels. It is also to be taken into account, that owing to the previous bad harvest, the stock of good wheat on hand at the opening of the recent English harvest was very low, so that the new crop entered at once into consumption. Considering this, together with the fact that relatively higher prices in France incited unusual exports to that country from England, it will not be surprising if the home grown English wheat is exhausted much earlier than usual.—Ed. *Amer. Agr.*]

8.—France and Great Britain together will therefore require, to make up the deficiency of this year's harvest, **one hundred and forty-four millions (144,000,000) bushels of wheat!**—equal to nine thousand ship loads, at 16,000 bushels each!

9.—It is probable that the increased price will somewhat lessen the average consumption, es-

pecially as the lack of cotton, and the lessened demand from the United States for manufactured goods, will decrease the ability to purchase food. It has been found, however, that the poorer classes consume less meat in times of depression, and eat more bread which is always a cheaper food than meat. But after allowing for all deductions, the *Express* may well say: "It is best to look this dilemma in the face at once....nor is there any time to be lost.".... "We shall this year have to compete with France, Spain, Holland and Belgium in the other markets.".... "France is alive to the exigency, and the Government does not wait for private enterprise.".... "Unless our merchants bestir themselves, we shall be forestalled in all the grain-exporting ports of Europe, as well as in those of the United States."....

Such are the views taken of the matter by a leading foreign journal. The readers of the *American Agriculturist* will bear witness that we have for months past predicted this state of things, and we will only add, that what we have hitherto written has not been founded upon opinion merely, nor has the wish been father to the thought, but we have spared no effort to ascertain the real condition of the foreign grain crops, so far as that condition would be likely to affect the interests of this country.

The Home Trade in Breadstuffs.—How much can we Export this Year?

"How much Wheat and Flour can the United States spare this year?" is a question of general interest, not only here, but in Europe, in view of the great foreign demand referred to in another article. Unfortunately, we have not yet in this country any method of gathering accurate statistics of the crops. All is guess-work, and anything we may offer is to be taken as merely an opinion founded upon general observation and report, and such special sources of information as our position naturally gives.

That the Wheat harvest of 1860 was unprecedented, in our country, is conceded on all hands. As soon as threshing commenced, considerable quantities were hurried forward to the Eastern markets, partly to supply the home demand, and partly for a limited export. It was late in the season before we had positive information regarding the real deficiency resulting from the late, rainy harvest in England. Prices at the West were moderate, and few farmers were willing to accept the proffered rates, except those compelled to do so by absolute necessity. The result was, that only a very small part of our surplus, comparatively, was forwarded up to the close of navigation. The receipts at New-York, from all sources, for three months ending Nov. 19, 1860, were about 1,560,000 barrels of Flour, and 10,281,000 bushels of Wheat, equivalent, in round numbers, to 18,081,000 bushels of Wheat.

During the Winter, considerable amounts were concentrated at Chicago and other points, by railroad, and small quantities were sent east by the same method of transportation. The receipts at New-York from Nov. 19, 1860, to May 1, 1861, were 1,280,479 barrels of Flour, and 4,924,300 bushels of Wheat—equivalent to 11,327,000 bushels of Wheat.

Before the opening of navigation the present year, the utter prostration of Western money secured by Southern State Stocks, so deranged the Western currency, and so violently disturbed the exchanges, that it was next to im-

possible to carry on extensive operations in Breadstuffs. The total receipts at New-York, from the opening of navigation, May 1, 1861, to August 15, amounted to 9,500,000 bushels of Wheat, and 1,401,400 barrels of Flour, making the total of Flour and Wheat brought forward from the harvest of 1860, up to the beginning of the new crop receipts, equivalent to about 46,000,000 bushels of Wheat. It is safe to guess that this was scarcely half of the surplus of the harvest of 1860.

The harvest of 1861 was good—fully an average for Winter Wheat, though, from all accounts, below the average for Spring varieties, especially in the States west and northwest of Indiana. After allowing liberally for home consumption, it is probable that the surplus of the 1861 harvest was sufficient to equal all the shipments eastward since the threshing of the new crop commenced, leaving an amount equivalent to the unsold surplus of last year's crop still stored in the barns, granaries and stacks of the Western and Middle States, and the Canadas. Indeed, from the want of means to move it, there has been comparatively little grain exported direct from Canada, for several months.

Looking over all the ground, we conclude that should the foreign demand be such for the next nine months, as to produce high prices enough at our seaboard to draw out the last surplus bushel from the remoter portions of this country, including those parts of Canada, from which supplies are brought to or through the United States, the amount would aggregate anywhere from 60,000,000 to 80,000,000 bshs., Wheat and Flour included—probably nearer to the latter than to the former figures. Very high prices would probably greatly limit our export, by drawing out supplies from Eastern Europe, in competition with the American market.

The only limits to the present transactions are the capacity of the canals and railroads to bring Wheat and Flour, and the lack of ocean vessels at moderate freight rates. When the inland water navigation closes, the supplies for the New-York market will be limited to the capacity of the railroads. The stock at the seaboard will run low, ships will compete for loading at low rates, the foreign demand will be large, and as a consequence, prices here will undoubtedly rule high during the Winter.

The railroads, being without competition during the winter months, and having all the business they can do, will probably charge high rates, which will make considerable difference between the prices at the West and the seaboard. Still, the high rates here will react favorably upon the interior, and, with the continued active foreign demand, and the abundance of money in the country, we shall look for the prevalence of fair prices for breadstuffs throughout the country, for at least six or eight months to come. Beyond that we cannot estimate. A large breadth of Wheat will undoubtedly be sown in Great Britain and the rest of Europe this Fall, and should their next crop be a good one, it will check imports from this country. Let us make hay while the sun shines. Wheat will sell at some price above the cost of transportation. We may not be able to say as much of our immense stores of Corn, both of the old and new crop. The absence of frost, (none up to this date, Oct. 18,) will add many million bushels to the corn crop of this year. On page 341, we have referred to the value of Corn for food. Let us consume it largely, and save our Wheat, and get it to market while the foreign demand continues.

Draining—Why—Where—How.

Concluded from pp. 36, 70, 105, 137, 169, 201, 233, 264, 297.

In the nine chapters already given on this important subject, and in sundry basket items, we have perhaps treated it as fully as is expedient in a periodical, and we therefore purpose to suspend the regular continued discussion—but not to stop talking or writing about draining. Farmers are beginning to learn something of the advantages—the profit—of removing excess of moisture from their land, to facilitate its cultivation, to lengthen its season, and to greatly augment its productive capability. In England this subject is so thoroughly understood, that the Government has already loaned some Thirty Millions of Dollars to farmers to be expended solely in tile draining, and to be paid back in small annual instalments during 20 to 50 years to come. And this has not gone to marsh or swamp draining alone, but most of it has been loaned on land as dry as the average of American farms. The same course will be ultimately pursued here, though our wide-awake people will hardly wait for government aid. We shall keep agitating the subject, and from time to time present such information as we can. Hundreds of draining queries have been addressed to us this year, all of which have been answered, we believe, in some of the previous chapters. We will cheerfully answer any further questions. But there are many particulars connected with the subject, and those who have become interested, should procure one or both of the two American books recently published, viz: French's Farm Drainage, and Klippart's Land Drainage. The former is a very good work of 384 pages, costing \$1; the latter, just issued, comprises 475 pages, costs \$1.25, and is rather more full than the former. (The books can be sent post-paid at the above regular prices.) Our newer subscribers ought to read the articles in the present volume of the *Agriculturist*, if they can get them from a neighbor, or afford to buy the back numbers.—We add here an item or two crowded over from last month:

DISCOVERING FAULTS IN DRAINS.

As we have constantly advised, drains should always be laid down carefully and thoroughly, and every failure guarded against as far as possible. In case of any accidental failure, however, it is seldom necessary to begin at one end and take up the whole drain to find the point of failure. By a close examination of the soil along the surface, an unusual amount of wetness at any point will indicate the place of obstruction. In examining a drained field last Spring, where the drains had a fall of nearly a foot in a rod, we found in a hollow spot a little stream issuing upward—a diminutive spring overflowing upon the surface. The stoppage was found about three rods distant, under higher ground. The drain had been laid nearly level, if anything raised upward a little, to avoid digging deep, and at this point sand and clay had settled in and filled the drain, almost entirely choking it for half a dozen feet in length.

PRESERVE PLANS OF DRAINS.

As under drains are designed to be entirely out of sight, it is important to preserve accurate plans of their location. These plans may be drawn on paper, marking down especially their length, depth at different points, and the distances between them, and from different points in a direct line to the corners and sides of the field. Such plans should be kept in some secure

place, where the drainer himself or his successors can always find them. A farm will usually sell for a much higher price, if the owner can exhibit a plan of a good system of under-drains.

ANOTHER SIMPLE LEVELING INSTRUMENT.

In addition to the cheap leveling instruments shown on page 264, a correspondent describes another one which can be arranged in a few minutes with a common iron or steel "square." He likes the implement, and says, with his boy of 13 years old, he has leveled forward and backward with it over 150 rods, and varied scarcely an inch. In fig. 39 we have given the form as near as we can from the rough sketch furnished. A somewhat similar arrangement is given in "Thomas' Farm Implements." A small stake, *a*, is sharpened at one end, and slit

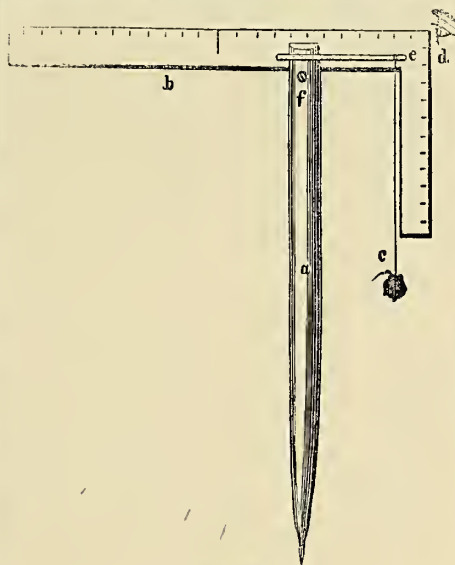


Fig. 39.

down three or four inches at the other with a saw. A common square, *b*, is placed in the slit, and held somewhat firmly, but not tight, by means of a screw, *f*, passing through the stake just under the square. A small stick, *e*, is tacked across the top of the stake, and from near the end of this a light stone or other weight, *c*, is suspended by a string. It is evident that the top edge of the square will be level when the string hangs exactly parallel with the short arm. By regulating the pressure with the screw, *f*, the square can be moved in the slit, and yet be held firmly enough in its place. A larger longer wooden square may be used in place of the common iron one, but the latter will answer for all ordinary leveling operations. The setting of the marking stakes, etc., and the grading of the drains are fully described on page 264, of the September *Agriculturist*.

One of the Clover Stalks.

Francis Schreiner of Crawford Co., Penn., sends to the office of the *American Agriculturist* a single Clover Plant, the second year from seed, which, when packed in, fills a box 4 feet long, 6 inches deep, and 4 inches wide. It has 70 main stalks from the same root, which, with their lateral branches, measure 1050 feet in aggregate length. The heads number 972. Mr. Schreiner says there are plenty more nearly as large as this in the field, which has never been manured, and he justly thinks it will be hard to beat.

IMPROVEMENT IN SORGHUM SUGAR MANUFACTURE.—At the recent Illinois State Agri-

cultural Exhibition a sample of sorghum sugar was shown by a Mr. Rogers, said to have been manufactured by a peculiar process which will infallibly produce sugar from sorghum whether green or ripe. If this be true it is of great importance. It is said that the process will be tested by further experiments this season, and then made known to the public.

Poor Wagons—Striking Figures.

A very important article on the "Motive Power of Wheel-Carriages," appears in the Coach-Maker's Magazine for October, going to show the great loss in using imperfect axles, heavy wagons, etc. The article is long, and we condense for the *American Agriculturist* a few of the hints given, using our own language mainly.

Every good mechanic knows that by placing the arms of the axletrees only an eighth of an inch out of the proper position the draft will be increased from 10 to 20 pounds. We all speak of one wagon as being "easy running," and of another as "hard running." The non-mechanic knows that, for some reason, of two wagons of the same weight, size, and general form, one will run much easier than the other, though few if any have ever thought of the real loss to the owner involved. Let us see what this amounts to, taking for illustration a heavy stage coach, weighing with its load $1\frac{1}{2}$ tons. The writer's observations show that such a coach will last 900 days if run 75 miles a day—making the distance traveled 67,500 miles. Allow the teamster's charges to be two-thirds of one cent per pound for each 100 miles, and the expense on the coach, would be \$13,500. It is probable that this amount is not above the average expended in hauling a strongly built stage coach during its entire running career. To draw a 3000 lb. stage, including load, requires a steady draft of from 300 to 400 lbs. Taking the highest figure (400,) and dividing the \$13,500 by it, we have \$33.75 for every pound draft while the wagon is wearing out! (The 300 lb. is probably nearer the true steady draft, and if so the cost would be \$45 for each pound of draft.)

The application is evident. If by more perfect form or construction, the steady draft can be reduced 10 lbs. it is a saving of \$337.50 in team expense on the single coach during its entire wear, at the lowest estimate, and \$450 at the higher rate. The same reasoning applies with more force to light carriages and wagons. Suppose a farm wagon to last 2 years constant running, or 10 years if running 60 days in a year, or 600 days in all, and that it costs \$1 per day for team and harness wear, or \$600 in all. If the average steady draft be 100 lbs. to draw the wagon, empty and loaded, the entire cost per pound of draft will be \$6. But if by the use of the improved case-hardened iron axles, and chilled pipe boxes, and by using lighter and stronger wood and iron, the average steady draft can be reduced to 80 lbs., the saving of \$6 on a pound in the amount and wear of horse-flesh and harness, will reach \$120 on the entire wear of a single wagon. These figures are striking—almost startling—but we think they are not over-stated. Look over them carefully and see if they are. At the very least they will indicate to every one the importance of looking well to the construction of any wheeled vehicles they may buy. Few may be able to decide upon the mechanical principles applied, or lacking, in their construction, but a few minutes' trial at the pole or thills will go far to test the comparative draft of two wagons or carriages offered.

Late Pasturing.

Some farmers keep their cattle out as late as possible in the Fall, and even into Winter. The pastures are gnawed very close, and even the after-math of the mowing fields, as if they never expected to get another crop of grass from them. This is very bad husbandry upon any land, and especially upon that recently seeded with herds-grass. This grass, as is well known to all careful observers, has a bulbous root, and the fine fibers that shoot out from the bottom are not as strong as the roots of most other grasses. It is therefore exceedingly liable to be torn out by the roots by grazing cattle, especially if the grass is short. In a close cropped meadow, where this grass has been sown, nothing is more common than to see thousands of these dried bulbs lying upon the surface. We doubt the economy of grazing a herds-grass meadow at any time. But if done at all, it should not be cropped after the first of November, in this latitude.

The roots of all the grasses are designed to be covered with their own leaves and stalks during the Winter. These and the snow protect them from the alternate freezings and thawings, and bring them out in good condition in the Spring. The farmer who undertakes to thwart the designs of Nature in this respect, will find it very expensive business. The little that he saves in feed now, he loses the next season in the diminished yield of the pasture or the meadow. We ought always to manage so as to have Nature working with us, instead of against us. This is one of the evils of overstocking farms. The farmer is afraid that he has not quite fodder enough for Winter, so he pastures till the ground is frozen. He cuts less hay for it the next season, and he is still more sorely tempted to pasture late.

It is quite as bad for the cattle as it is for the land. If they have no fodder in the month of November, they lose rather than gain upon pasture, unless it is much better than the average. Every animal ought to go into the stable in a thriving condition—if not fat, at least in full flesh. They are then easily kept thriving upon good hay, or upon hay and roots, straw and meal. After several years' close observation directed to this particular point, we do not think any thing is gained by pasturing in this latitude, and north of it, after the first of this month. All the grasses must have time to cover their roots in order to make flush feed next season. Cattle foddered through a part of October and brought to the stable about the first of November, in good flesh, are easily wintered. It is better management to buy hay or to sell stock, than to pinch the pastures by close feeding. *

The Leaf Crop.

This very valuable crop is too often entirely overlooked. Multitudes of farmers have yet to gather their first leaf harvest. Gardeners very generally appreciate the value of this article, and where it is accessible, it enters into their most valuable composts. Most farmers are so situated that they can gather leaves in large quantities and would readily do it, if they knew how well it would pay.

Chemical analysis shows that the leaves of plants are rich in fertilizing matter, much richer than the wood. Eleven per cent of the leaves of the elm are ashes, while the wood only gives two per cent. Other trees show a still greater difference. The constant growth of forests even

upon poor land, is doubtless owing to the annual deposit of leaves upon the surface of the earth. These having drawn fertilizing matter from the subsoil through the roots, deposit it on the surface where it is available. Every one has noticed the rank growth of grass, where leaves have been burned or allowed to decay. They are valuable to the farmer for bedding before they go into the compost heap. Nothing is better for the sty or the stable, than a good leaf bed. The time of rustling leaves has come in the garden, upon the lawn, in the orchard, and in the forest. Let them be gathered as the last of the harvest.

For the American Agriculturist.

Save Cartage.

A man who has two yoke of cattle, or a span of horses, seldom stops to think of the expense of carting muck and handling manure. The ordinary route of muck, from the bed to the field where it is to be used, is through the stable or yard, and privy. This will, doubtless, have to be the course for a large part of it. But we can use profitably more muck than we can afford to cart in this way, which makes at least two extra handlings.

The writer is now carting a lot of ditch scrapings and muck, directly to the field where they are to be used for top dressing. It is put in heaps so near together, as to admit of easy spreading over the whole ground. During the Winter, as manure in the yard accumulates, it is carted out and mixed with these heaps of muck. It is made fine, and spread as soon as the frost is out of it in the Spring. The muck has the benefit of the freezing and thawing quite as much as it could in the yard; is ameliorated by the fresh manure, and makes an excellent top dressing. The same can be done in making compost heaps for corn, and other hoed crops. Use the strength of your teams to the best advantage and save cartage. CONNECTICUT.

Chess—Instructive Experiment.

Some persons go so far as to assert that all chess springs from wheat seed, and that chess itself is only a bastard wheat, which will not reproduce itself. Below is the result of an experiment which would seem to settle the question of reproduction. We have scores of letters on the chess question, and have, from necessity, decided not to publish more on this subject at present, as a general rule. The following letter may well form an exception:

To the Editor of the American Agriculturist:

I wrote you about a year ago, stating that I was conducting an experiment with wheat and chess, and that I expected to prove to you that wheat would produce both chess and wheat. I acted on the belief that chess was a mongrel wheat, which could be produced by stinting the wheat, and that this mongrel wheat, (chess,) would not reproduce itself. To prove my theory I turned under two plots of sod perfectly clean and free from weeds or seeds of any kind. On one plot I sowed clean Blue Stem Wheat, and on the other clean Chess seed. Both came up finely. Fowls were allowed a free range over the whole plot during Autumn and Spring, and they picked it off close to the ground. Then on the 1st of May I cut off the tops of the plants, and repeated the cutting just as the stooling commenced. But in spite of my strong faith that I should have some chess, it all came out pure wheat. On the plot seeded with chess

I had a splendid crop of pure chess, and chess only, which was fully matured by the first of July.

D. T. WIELAND.

Center Co., Pa., Sept. 17, 1861.

Principles Regulating Breeding.

The following extract from a prize essay on the above subject, by Henry Tanner, Member of the Royal Agricultural Society of England, explains why so little success is attained in securing good stock from animals of high excellence:

"In the breeding of all varieties of farm-stock—cattle, sheep, pigs, etc.—the results seem uniformly to follow the same fixed but simple laws. It is an old and approved maxim that 'like produces like;' but this rule, though generally true, may be misapplied, when the error will be demonstrated by the contradictory evidence of practice and experience. If an animal is capable of transmitting any character to its offspring, it must possess that which it conveys, although at times qualities may predominate in the offspring, which were almost latent in the parent. If, therefore, any quality or character is rendered hereditary, it must correspond with that inherent in the parent from which it descended. If, however, I breed from a female possessing certain qualities, and a male distinguished by an opposite character, it is clear that the offspring can not perpetuate both of these characteristics, and the result appears antagonistic to the maxim that 'like produces like.' This brings us at once to the consideration of one of the most important principles connected with breeding, namely, that although 'like produces like,' (for it can produce nothing else), still, when the parents possess opposing qualities, the preponderance is exercised by that one which possesses the hereditary tendency in the greatest strength. If, for instance, a cow having any special peculiarity of form is put to a bull having the opposite character, the offspring will assume the character of that parent which possessed the greatest hereditary powers in this respect, or, in other words, the greatest purity and unity of influence. If these hereditary powers are under our control, it is important to consider by what means they may be increased or diminished.

"In breeding from a ram and ewe possessing a similarity of type, the produce of such a union will, of necessity, also possess the like character, but in a higher degree. Thus the result of breeding stock of similar character is that these peculiarities are not only perpetuated but intensified in the offspring. Provided that the parents possess similarity of type in any given particular, every successive generation thus produced acquires an increase of hereditary force, by which we mean the power of imprinting its own stamp upon its progeny. But in like manner as this power accumulates when there is a similarity of character, so also does it diminish when the parents have opposite or antagonistic characters. Suppose that a well-bred ram, by careful breeding through several successive generations, has acquired strong and valuable hereditary powers (which, for illustration sake, we will represent in figures), say equal to 100. If this animal be put to a ewe of a totally different character, say having hereditary power equal to 60, the result would be that the offspring would still possess the same character as the ram, because of his hereditary power; but the hereditary capability of the offspring would be reduced to say 100—60=40. Supposing the offspring to be a ram, at a subse-

quent period both the sire and offspring may appear equally perfectly in form and general character; but the power of hereditary transmission being so much greater in the sire than this offspring (in proportion of 100 to 40), the former would be far more valuable as a breeding animal, although the difference in the capabilities of the two would be entirely hidden or latent. If you breed from animals possessing a similarity of type, the offspring will possess the same character, but with a greater power for the hereditary transmission of this character. On the other hand, animals having opposite characters mutually weaken each other's influence, and the offspring only possess the power of hereditary transmission in a reduced degree.

This power of perpetuating character is not confined to any one quality, but it extends to every peculiarity of the animal, whether it be similarity of feature, configuration of the body, general habit of growth, disposition for fattening, the formation of milk, healthy constitution, predisposition to disease, temperament,—all are alike hereditary and are modified in their transmission by the mutual influence of the parents. It would appear as if every individual point of character were thus controlled and balanced according to the respective tendencies of the parents, and that the resultant character represented a series of balances, sometimes in favor of the male, at other times in favor of the female. The dam might succeed in communicating the general form to the body, but be unable to overcome the stronger power of the male over some certain portion of the body. The dam might be naturally deficient, for instance, in her hind-quarters and good in other parts, and under the influence of a sire having a powerful tendency to produce a good hind-quarter, she may be compelled to yield to his superior influence. In certain points of character, where they corresponded, the influence would be increased. In some particulars the dam might predominate, and in other respects the sire might be influential. Thus the hereditary powers of carefully-bred stock will represent the maximum of good influences and a minimum of those which are undesirable."

Corns on Horses' Feet.

There may be in some animals a constitutional tendency to the growth of corns and other excrescences, but as a general rule, we believe they are caused by the unskillfulness of the blacksmith or the carelessness of the owner. Sometimes, the shoe is allowed to remain on the foot six weeks or two months, in which time it becomes imbedded in the hoof. Corns are sometimes caused by keeping a horse upon a dry stable floor, year in and out, using him but seldom on the soft, damp ground, and taking no pains to wet the hoofs and so keep them soft and pliable. Wherever it is possible, a horse should run at large in a pasture, several months of the year: this will promote his general health, and do more than anything else to keep his feet sound. But where this can not be done, care should be taken to moisten the hoof frequently, in the stable, or by use on the road.

The blacksmith has no little responsibility in producing corns. He sometimes draws the shoe in at the heel, and bevels it from without inwards. He cuts away the bars of the foot, and so weakens the quarters. All this is wrong. Keep the bars sound, and set the shoe level.

But when corns appear, what shall be done?

Remove the shoe, pare out the angle well between the bar and the crust, and apply a little warm tar to the tender spot. Youatt recommends "the butter of antimony." Saturate a piece of cotton wool with this liquid, and press it into the hole firmly, so that it will not soon be lost out. The design of this remedy is to stimulate the sole to the formation of new and healthy horn. Then, in shoeing, care should be taken to prevent friction on the tender part. Let the shoe be slightly bent off at the heel, so that it will not touch the hoof, and make the shoe so stiff that it will not bend down again under pressure. The shoe ought to be a little wider at the heel than before, and be slightly beveled from the last nail hole.

In ordinary cases, the above treatment will remedy the evil. But where it does not, after a trial of ten days or a fortnight, then remove the shoe and put on a "bar-shoe," chambered so as to take off pressure from the diseased spot. This, however, should not be worn longer than for two shoeings, as it would injure the frog and induce the growth of soft hoof at the heels. While trying the "bar-shoe," or the bent shoe before mentioned, fail not to keep the hoof soft by using the hoof-ointment sold by all horse-doctors for this purpose. After applying it several days, wash the foot clean with castile soap and water; then use it again.

Where the ointment can not be had, and where the foregoing remedies do not answer the purpose, take off the shoe, and dress the foot with a large bran poultice. But turning out to grass, wearing light shoes meanwhile, is perhaps better than ointments and poultices put together. We have found this to succeed, when all other remedies did but little good. *

For the American Agriculturist.

A Good and Cheap Poultry House.

Having made some improvements on my farm this year, I will mention only one—the humblest, most original, and perhaps most economical of all—to wit: MY POULTRY HOUSE. It is built on seasoned white oak posts set in the ground 3 feet deep, is 8 feet high, 12x16 feet, with roof of usual pitch, and eaves projecting 3 feet. The gable ends and one foot on the sides are sheathed, with lattice windows in each gable end for light and air. The planks forming the sides of the house are planed on the inside only. They are set perpendicularly and rabbeted in, so that each plank can readily be slipped out after the first one on each side is taken out, these being secured by hooks on the inside. They are taken off occasionally, and washed with strong lye to destroy vermin, and then returned to their places. Next to the posts on which the frame rests, and below the rabbit or resting place for these upright boards, I have placed planks 12 inches wide, held in their places merely by wooden pins driven into the ground. The nests are placed against these planks, and covered by a wide plank, which also can readily be removed at pleasure. The nests are on the ground, separated by stones which project some little distance in front. The roosts are constructed of small saplings, which rest in notches in a plank on each side, that is nailed temporarily (tacked merely) to the frame, and these poles are 2 feet apart, and extend to the roof of the house at an angle of 60 degrees or thereabouts. There are four of these inclined planes of roosts. The door is at one of the ends of said house, and there is an opening on the side, near the top of the door, for

ingress and egress, with a suitable hen ladder both inside and out.

If the above description is understood, it is easy to explain the objects I had in view in this building. Cheapness and cleanliness were the main objects to be obtained. Being built of second rate lumber, without ornament of any kind, and merely jack-planed off on the inside, the first was accomplished. With the exception of the roof and gable ends, it can, in a few minutes, be taken down, the boards washed and replaced, by which means a most thorough cleansing can be obtained. The roosts, when foul, can be burnt, and new ones substituted.

G. J.

Franklin Co., Missouri.

For the American Agriculturist.

The Wren and Bees.

The Wren is a valuable bird. It never does any harm, while it lives entirely upon insects, and is one of the most persevering, industrious, voracious and greedy little marauders that we know. I have a family of wrens quite domesticated; they come regularly every year, about the first of June, and leave about the first of September, with the progeny of the year. Several years ago I built three little houses for them, 2½ inches square, with a round entrance of 1½ inch; they have occupied them every year since, and no money would tempt me to part with my little russet songsters. All the day we are regaled with their merry songs; every morning and evening they are as fierce as hawks around my bee-hives, not a hive is missed, not a spot overlooked, every crack and cranny is explored, every bee-moth is dispatched, every dead young bee is carried off, and I consider my family of wrens of more value for the destruction of the bee-moth than all the lotions, mixtures, decoctions, and patent fly-traps ever invented.

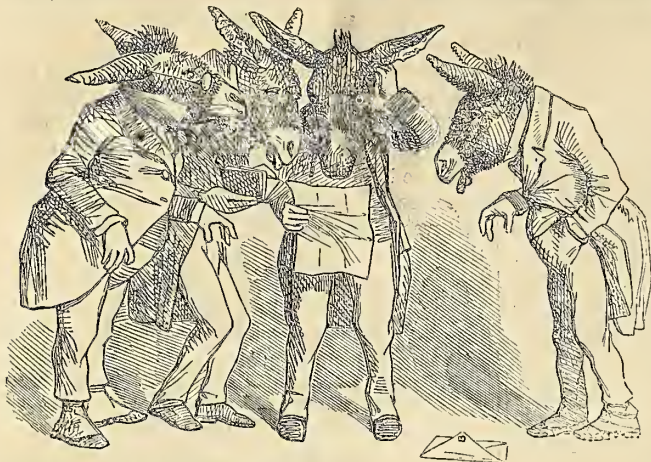
Manlius, N. Y.

AGRICOLA

The Army Worm and Draining.

At one of the discussions at the recent meeting of the New-York State Agricultural Society, Dr. Fitch, State Entomologist, gave a lecture on the Army Worm, in which he stated that it is not the cut worm, but strictly the larva of a grass moth, which ordinarily lurks in the wild grass of swamps. In very dry seasons the insect has unusual feeding range, which favors a rapid increase. If the succeeding season be very wet, the swamps are overflowed, and the insects are driven out among the crops, scattering their eggs over the country. In confirmation of this explanation of their sudden appearance in such numbers, Dr. F. stated that the year 1769 was dry, and 1770 wet, and the army worm was then very destructive. This also occurred in 1816 and 1817, and again in 1860 and 1861. During this last visitation it was observed that the worm did not make its way up along the Connecticut River as in 1770, because most of the marshy regions then are now drained. If this theory be correct, it gives an additional reason for draining swamps and marshes.

A CROWING MATCH.—A new sport has been inaugurated in France, viz: crowing matches between roosters. An account is given of a late spirited contest between ten large fowls and ten of smaller breed. The Shanghais carried away the palm. We presume the quantity, and not the quality of the crowing was regarded, for the crowing of a Shanghai is about the loudest noise that can emanate from the poultry yard.



To the Editor of the American Agriculturist.

While at the Post Office last night, the Post Master handed me your October number to look at. My eye first fell upon your exposure of Humbugs on page 296. As I had just sent \$5 to Geo. F. Humbug (Hamilton), for a ticket in the "Grand Social Banquet" at Holderness, N. H., I hurriedly looked into my pocket book, and found that I too had paid for ticket No. 3769. Three neighbors came in, and seeing me anxious about something, they looked over my shoulder at the article in the Agriculturist, and as it proved, they had each sent \$5 for Ticket No. 3769. The way we looked about that time, or at least the way we felt, I have tried to sketch with my pencil, as you see above. . . . As a precaution for the future, we have concluded to have the Agriculturist hereafter. I was urged to take it last year, but thought I could not afford it. I now see I could. Enclosed please find \$4 for the four names below—or above. Yours, etc.,

Barnstable Co., Mass., Oct. 14, 1861.

Small Humbugs—Recipe Peddlers.

Recipe peddlers are the vermin of the humbug tribe. It requires something of a genius to originate and successfully carry on a swindling lottery or gift enterprise, or some scheme requiring extensive advertising and general notoriety; but the recipe peddler can crawl about from house to house, almost unmolested, and like a predatory insect take a bite here and there to the great annoyance of his victims, but without exciting sufficient public notice to make his depredations hazardous. A man will usually suffer from a flea bite rather than be seen hunting for the insect, and in like manner, one who has been taken in by a petty swindler, generally prefers to keep quiet about it, rather than be laughed at; and thus these vermin are usually allowed to go unmolested. A few illustrations of the habits and practices of the tribe will be sufficient to guard the readers of the *American Agriculturist* from their inflictions.

The recipe peddler usually offers for sale the secret of making honey, or vinegar, or soap, or some other common household article, with little or no trouble, and at a very trifling cost. Frequently he exhibits professed samples of his manufacture. He goes industriously from house to house, never remaining in a place long enough for his recipes to be put to the test, and the deception exposed. Sometimes the directions given are good, but they could have been found in almost any recipe book, at one-tenth the price paid to the swindler. Quite often, however, the information imparted is entirely worthless. Here is a case in point: A subscriber lately paid fifty cents for the following soap recipe, which we copy verbatim:

One pound of Ammoniacum, two pounds Rosin, one pint of Alcohol, one quart of Salt, one pound of Cooper's Isinglass, one peck of Corn Meal sifted (!) to eight gallons of Rainwater,

boiling when you put the preparation in. Then let it boil for five minutes, then set it off to cool. WILLIAM TAYLOR.

The peddler said this compound would make 100 lbs. of soap, at a cost of only one dollar. One half the required quantity was purchased for something over a dollar, and the directions duly followed. The result, as our informant says, was no more like soap than hasty pudding. It was good for nothing in the house; the pigs turned up their noses at it and ran away with a derisive squeal, and the whole was thrown on the manure heap. It would not be advisable for a recipe peddler to visit that house again, but the fifty cents was not entirely lost if the experience be heeded by the readers of the *American Agriculturist*.

A WORSE HUMBUG—SILVERING POWDERS.

To-day, (October 1st,) we were followed two blocks by a vagabond, who poured out the foulest profane language imaginable, and we were actually compelled to hand him

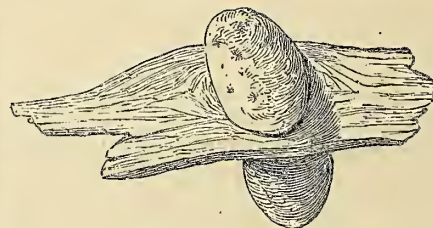
over to a policeman. Our offence was "interference in his business" in this "free country," where "every man had a right to follow whatever honest calling he chose." The gist of the matter was this: Passing the corner of Pearl and Fulton streets, we saw the fellow taking in the shillings at a rapid rate from a lot of poor women, who evidently had but few more left, and for what? Why a little box of a clay paste which was "warranted to beautifully coat with silver any article of copper, brass, german silver, etc." And in proof of the assertion, a little of it was rubbed upon a brass stair-rod, upon old fashioned copper pennies, and upon brassy spoons, and sure enough they did glisten with a brilliant silver lustre. Indignant at the deception, we ventured to tell the eager purchasers that the quicksilver, (mercury,) thus applied would last but a brief time, and, what was worse, it would eat into and spoil the surface of any kind of metal to which it would give the lustre.

Let us here warn the readers of the *American Agriculturist* that these silvering powders and fluids so frequently sold about the country by peddlers, and by ignorant or unprincipled merchants, are all of the same class. They will positively spoil the surface of copper, brass, german silver, or silver itself. Rub a few coatings upon a silver coin, and it will become as brittle as a pipe stem. They are either mixtures of quicksilver with colored clay or other material, or they are clear or colored solutions of quicksilver in nitric acid (aqua-fortis) diluted with water. Certain metals, such as copper, brass, silver, etc., reduce the quicksilver to its metallic state, and give a bright silvery lustre; but this will quickly tarnish, while the quicksilver will dissolve or eat into the metal itself, just as a drop of water will affect a lump of sugar. Fine emery or clay is useful to brighten surfaces of genuine silver, but there is no preparation that, without the aid of a galvanic battery, or heat, will give a coating of real silver. Strong heat

will expel (evaporate) quicksilver, and if the reader has been injudicious enough to use any of these so called silvering powders or washes, the best thing to be done is to at once heat the article strongly to expel the last trace of the noxious mercury. Miners frequently triturate or beat up gold-bearing rocks or sand with quicksilver, which dissolves out the gold as water would dissolve out particles of salt. The sand particles float upon the heavy quicksilver, and are removed. The liquid is then heated strongly, which evaporates the quicksilver, leaving the pure gold in a mass, or in fine powder, to be melted together. Silver can be separated in the same way. The quicksilver escaping in the form of steam or vapor, is collected in cold receivers as it escapes, and is used over again and again. This explains why such large quantities of quicksilver are sent to California, and also why the discovery of quicksilver mines there increased the value of the gold mines.

Have You an Ice-House?

It can be made very cheaply, and when the luxury of ice in Summer is once enjoyed, it will not be readily given up. If no better structure can be erected, build an ice room in one corner of the wood house, or any shed where room can be spared. The north-east corner is best. Set a row of upright posts one foot from the inner sides of a building, and two rows of posts a foot apart, for the other two sides of the room; make the enclosure say eight or ten feet square. Cover these with rough boards or slabs, and fill the space between with spent tan bark. Lay down a loose floor, and cover a foot deep with straw. When ice is formed, select that which is pure, clear, and hard, cut it into pieces of convenient size, and pack it closely in the room. Leave six inches space between the ice and the sides of the room, and fill this with sawdust. Also cover with saw-dust a foot thick, and fill up to the roof with straw. Packed in this way, ice enough to supply a family of average size has been kept safely, the season through.



A Vegetable Curiosity.

The above illustration represents a singular growth made by a potato, which was forwarded to the office of the *American Agriculturist* by Mr. George C. Hane, Middlesex Co., Conn. The tuber, while small, found its way into a knot hole in a piece of lath which lay near it, and as it grew, enlarged on each side of the hole, so that it can not now be withdrawn without breaking either the potato or the lath. A friend relates that he once saw a pumpkin in a somewhat similar "fix." It attempted to grow through a rail fence, but only half succeeded, and formed a double pumpkin, about half being on each side of the fence. Young gardeners might take a hint, from these samples, and produce amusing vegetable curiosities, by introducing young fruits into some vessel that will give them a singular shape; thus a melon might be forced to resemble a human head and face, etc.

Tim Bunker on Painting Buildings.

**COST OF PAINTING—HINTS ON COLOR, ETC.—
STONE HOUSES—NEW ARGUMENT FOR
SHADE TREES.**

MR. EDITOR: Cleanliness is said to be next to godliness. It certainly looks better to see a farmer's house and barn all nicely painted, and it makes the paying of the bills rather easier, to know that paint is the cheapest outside covering for all wooden buildings. So I am going to paint up, this Fall, notwithstanding the war. I rather guess I shall have something left to pay the bills, after the war taxes are paid. It is only five years ago that I painted up every thing I had on the farm, even to the ice house, and the pig sty, and I suppose they might now stand another year without much damage. But as I was coming home from Shadtown last week, Mrs. Bunker took occasion to remark that she thought the gable end of the house looked a little dingy and bare. At any rate, it did not look so well as Mr. Slocum's house, and she thought if a poor minister could afford to keep the parsonage in so neat trim, that Timothy Bunker could afford a new coat of paint.

Now I half expect she was joking, for she knew well enough that I had paid the bills for painting the Shadtown parsonage, because Josiah and Sally, being young folks, had enough other use for their money. I didn't say much, but I rather thought to myself, "guess Mrs. Bunker's getting jealous of her daughter."

But you see she is not going to have any occasion to think that an old bride is not just as good as a young one, though it is her own daughter, and all in the family. What made me more ready for painting was the fact that Jo. Dennis, the painter, was out of a job, complaining of the war, hard times, and nothing to do in his line. Now I like to see industrious people busy, earning money, and so I set Jo. at work.

I find I learn something about painting every time I do up the job. It requires from five to ten per cent of the first cost of a building every fifth or sixth year to keep it painted. This amounts to a heavy tax, such as we should think oppressive if it was imposed upon us by the Government. I have been thinking that a great many could save this expense by building with stone. In most parts of the country stones are plenty—granite, sand-stone, marble, that split easy, and are of handsome color. In many places, near good quarries, it would not cost any more to build of stone than of wood. Barns, and out-houses especially, might be made of stone, wholly or in part, to great advantage. Deacon Smith built a stone barn, ten years ago, and it keeps hay just as well as his old one, and has some advantages over wood. He claims that it is a great deal warmer in Winter, and of course it takes less fodder to carry his cattle through. It is cooler in Summer, and more comfortable for such animals as he keeps in the stable. It is more easily made rat-proof. The walls are made of split granite laid in mortar, and will never need any repair or paint in his day, or in that of his grand-children. The first cost was only a third more than wood, and he thinks the interest on this difference is more than made up in the saving of fodder, repairs, and paint.

We have a few stone houses in Hookertown, some of them the natural color of the granite, and some white washed, and they are the warmest and most comfortable houses among us. If I were going to build again, I should certainly use stone, for both house and barn.

But most of us have built of wood, and we must do the best we can with the houses we have. There is one good thing about it, we can change the color of our houses as often as we please, and come out in a new fashion, while the stone house maintains the same aspect. "What color are you going to put on?" asked Seth Twiggs, as he looked over the gate and mingled the smoke of his pipe with the steam of the boiling oil.

"It won't be blue I'll warrant you," said Jo-tham Sparrowgrass, without waiting for me to give neighbor Twiggs a civil reply.

"Guess it'll be horse color," observed Jake Frink, who still remembers the cured horse-pond, and thinks every thing I do must have a shade of horse in it.

When I was a boy, it was't much of a question as to what color a man would paint his house. I don't think there were a dozen houses in Hookertown of any other color than white. It was claimed that white was the natural color of the lead, it was the least trouble to make, and looked best in the country, where it was so easy to surround the house with trees and shrubs. I have always noticed in journeying, that the more green you have around a white house, the better it looks. In the last twenty years a great change has come over the taste of the people, and somehow they seem to paint other colors a good deal more than white; yellow, drab, light brown, lilac and grey. This may be owing somewhat to an improvement in taste, but I guess fashion has quite as much to do with it. A man paints his house to please his neighbors rather than himself, and if brown is the rage he paints brown. I am saved all trouble about the color, for Mrs. Bunker likes white and nothing else, so white it shall be. Our trees and shrubs have got so well grown, that white makes an agreeable contrast, and then it has always been white, and some of my friends might not know the house if it was any other color. The artists and architects make a good deal of fuss about blinds upon the outside, and the green color. But there is no substitute for a green Venetian blind upon the outside. It bars the heat, and lets in the breeze in Summer, and is always agreeable to the eye. Houses are built for comfort rather than for show, and I think comfort should be studied more than anything else. If we can make taste go along with it, that is so much clear gain.

It makes a good deal of difference about the season of painting. In the heat of Summer, the oil seems to strike all into the wood, and the lead washes off sooner. If I could have my choice of weather, I would select the clear days of Spring or Fall, with a north-west breeze, if any. Then, with good materials, the paint dries gradually, makes a good body, and will be a great deal more durable.

There is one thing I have just learned about painting, and it must be true as preaching. Paint upon a building well sheltered by trees, will last twice as long as paint in an exposed position. The gable end of the house, to which Mrs. Bunker called my attention, is almost bare, while the lower part has still a fair coat of paint. The reason is that the upper part of the house is fully exposed to the raking winds, while the lower part is partially protected by the barn and the shrubbery. On the west side of the house is a covered piazza. The paint sheltered by this, is almost as good as when it was first put on, five years ago. In violent storms the wind moves from forty to sixty miles an hour, and the rain is driven with this velocity against

the sides of the house. Of course, there must be a good deal of mechanical violence done by this continual battering of the rain drops. A friend, who has three sides of his house sheltered by trees, is of the opinion that a coat of paint will last twice as long as upon the fourth side, which is without any protection. Trees break off the winds, and are of as great advantage in preserving a house as they are in warming it in Winter. They should not stand too near a dwelling, so as to make it damp and unhealthy, but at a distance of thirty feet or more, they are a great comfort and ornament. In saving both paint and firewood, the evergreens have a great advantage over the deciduous trees. Their foliage is so thick and fine, that they break the force of the winds more completely, and sift out the cold.

This will be a new argument for planting trees around farm buildings, and one of the strongest that can be brought forward. A man will save enough in paint in five years, to pay for his trees and the cost of planting them.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, Oct. 10th, 1861.

For the American Agriculturist.

Give the Boys Tools.

Yes, give them tools—not merely the needful implements for cultivating the garden—but give them a few good carpenter's tools, with a bench on which to use them. Let their first attempt be upon a chest in which to keep the saw, hammer, bit-stock and bits, planes, square, rule, chisels, gimlets, awls, screw-driver, etc., with a separate hand box to set in, containing apartments for screws, and different sized nails, brads, etc. Let the middle partition of the box be a high board having a convenient handle cut out of the top to carry it by. The next attempt may be on a house or clothes chest, regularly dove-tailed together, and provided with a "till" in one or both ends. Our "blue chest" made while a small boy, will ever remain as one of the "household treasures." A hand-sled, set of trucks, or wheel-barrow will soon follow, after which some of the more useful farm implements, such as ax, hoe, or fork handles may readily be made, or sundry carpenter jobs attended to, such as putting new siding or shingles upon the house, setting glass, making and attaching water gutters to the eaves, etc. We could mention instances where persons without serving an apprenticeship, but with a fondness for and readiness in handling tools which frequent use begets, have constructed most of the implements upon the farm, not excepting the ox-cart and hay wagon. Others have built a barn, finished off rooms in the house, painted the buildings outside and inside, doing the work at a leisure time when there was little else requiring attention. Therefore we say again, give the boys a set of tools to amuse themselves with, and the money will be well invested. AN OLD BOY.

REMARKS.—All right; give the boys good tools, and a place to work in. But "Old Boy" puts them ahead too fast. Before setting them to work upon a tool chest, let them develop their skill by constructing all sorts of boyish toys, blocks, rude boats and ships, and sundry playthings. Let them begin as soon as they can handle the simplest tool without cutting their fingers. A gimlet and piece of board is about the best safe implement to start with. Early practice will develop mechanical skill and taste, which will be of great utility all through life.—ED.

For the American Agriculturist.

A Cheap Cistern.

Two years ago the coming month, I dug a hole for a cistern, 9 feet deep—9 feet across at top, and 7 feet across two feet below the surface—this left a shoulder or breech into which I placed two timbers for beams, and on these plank for a covering immediately over the cistern. A mason plastered it with Rosendale hydraulic cement, directly on the earth. It has never been dry since four weeks after it was finished, and according to my figures, holds nearly 63 barrels. It is perfectly tight now, except the spout and man-hole. It has never leaked out nor in. No surface water can drain in, and had I known how cheap, and with how little trouble it could be made, I should have had one long before.

The cost was as follows:

1 bbl. Rosendale cement.....	\$4.00
1 day plastering and board.....	1.75
1½ day in digging and board.....	1.50
103 feet Lumber.....	1.03
My time, nails, etc.....	1.50
Total cost of Cistern.....	\$9.78

The sand was mixed with the cement—only as fast as used—2 parts of sand to 1 of cement. There are sixty feet of gutter to my house.

Fon du Lac Co., Wis.

JOHN C. BISHOP.

REMARKS.—The above cheap method of making cisterns is much used in this region, and they generally do well where there is a firm hard soil to plaster upon. When locust poles and flagstones to lay on them can be obtained for the covering, it may be placed two feet or more under ground. The locust timber will last a century. Red cedar is also pretty durable.—Ed.]

For the American Agriculturist.

Barn Cisterns.

I have had one in use for six years, and it has worked so well, and been so great a convenience, that I can safely recommend it as a good investment. The barn stands upon a side hill, the main entrance being upon the third story, the cattle stalls upon the second, and the cellar and pig sty upon the first. The cistern is upon the second story, in the rear of the cattle stalls, leaving room for a walk and root bins between. It is about sixteen feet square and will hold some three hundred barrels. The walls of the cellar on three sides were used for the walls of the cistern and the fourth wall was made of heavy stone, two feet thick laid in mortar, to stand the lateral pressure. The inside was thoroughly cemented. The barn floor above was also laid double, and cemented to prevent dust from falling into the cistern. There is a free circulation of air above the cistern walls, to prevent the rotting of the floor. A pipe and stopcock communicate with the feeding room, where pure soft water is always ready for the cattle. Four cows are kept in the stables during the foddering season, and a horse the year round. The supply of water has been uninterrupted, except for a day or two the present season, when the cistern was cleaned out, and coated anew with a wash of cement.

All the water that falls upon the roofs of the barn and adjacent sheds, is turned into the cistern by gutters and pipes. The whole original cost of the arrangement did not exceed forty dollars. The expense for repairs has not been a dollar, as nothing has been done, but the cleaning of a pipe and the cleaning of the cistern and the washing of the walls with cement.

This arrangement has several important advantages. The water that would otherwise go

into the yard, making it a mud hole in Winter, now goes into the cistern even in wet weather. It is a great nuisance to have cattle miring knee deep in mud in mid-winter.

The water which the cattle drink, is always of the best quality, sweet and clean. It may be fancy, but they seem to like it better than spring or brook water. The watering as well as the feeding is immediately under the eye of the owner, and he can make sure that the cattle have water every day in Winter, without the trouble of following them half a mile to a frozen brook, and cutting a hole in the ice.

It is better than a trough fed by a pipe in the yard, which is frozen much of the time in Winter, and is apt to be surrounded with ice, making it difficult for cattle to stand. It is a great disadvantage to cattle to give them water near the freezing point. It takes a certain portion of their food to raise the temperature of this water to the natural heat of the body.

As a rule it will be found quite as economical to have a cistern under the barn, as to bring in spring water from a distance. The outlay for lead pipe is large, and it is always liable to be frozen, or to get out of repair in other ways. If cattle are all stabled during the Winter, as they should be, the necessary roofing will furnish an abundant supply of water. If no spring is available, a cistern has still greater advantages. A water ram often involves a larger expense, and is much more liable to get out of repair. A cistern is available for all locations where there are neither springs nor running streams. If arranged upon the same floor with the cattle stalls, no pumping need be done. A small pipe will conduct the water into the stalls if it is desired, and by turning a stopcock the whole herd may be watered at once from a trough running through the mangers. Put down a barn cistern as among the first jobs for a leisure spell.

CONNECTICUT.

For the American Agriculturist.

Storing Roots for Winter.

As the season is now at hand when all root-crops should be safely housed for Winter, we call attention to the subject. That roots should enter largely into the diet of all sorts of stock, no intelligent farmer will deny. How to keep them sound in the best manner, and convenient of access, is the question now to be looked at.

Some persons having plenty of cellar-room under the dwelling-house, store them there. This is better than nothing; but such cellars are apt to be so warm and close, that the roots decay, filling the apartments above with unpleasant odors, and producing considerable waste. Whenever the house cellar is so used, it should be that portion the furthest removed from the heated rooms above. There should be small windows in the cellar walls, hung on hinges, or sliding, so that they can be opened and shut at pleasure. But this plan has the additional objection of requiring the roots to be carried daily from the house to the barn. This, especially in rainy weather and deep snows, is unpleasant and laborious. A better way, on many accounts, is to store the roots at the barn, where they are to be used. For doing this, several methods have been employed:

1. Dig a cellar for the barn, like that for the house. Give it suitable drainage from the walls, through an underground ditch. Lay up the stone walls in good lime mortar, pointing the whole so as to exclude frost and mice. The cellar

should be seven feet high in the clear. Ample provision should be made for ventilation through the windows, which should be of double sash or double glass, to exclude frost. The windows should be movable, so as to be easily opened or closed as desired.

A difference of opinion prevails as to the feasibility of stabling animals in cellars. If made dry, light, and airy, they answer for all animals excepting horses. For these we would prefer stables entirely above ground. Where the cellar is partly used for stabling, the following plan will answer: On one side of the basement—the lightest, driest, and most airy side—partition off a section for the cattle stalls; lath and plaster the dividing walls. These stalls will, of course, be made in such a manner as to contribute most to the health and comfort of the animals. The other section should be arranged for storing roots. On the sides of this room, tiers of shelves are to be put up, supported by scantling of sufficient strength. These shelves are to have narrow pieces of plank nailed on the front and sides, so as to make each shelf contain about six inches deep of roots. The design of such a tier of shelves is to prevent the roots lying together in dense masses, and so heating and rotting. Stored in this way, the air will circulate among the shelves, and reach every root.

To get the roots into this cellar, a door or large window must be provided, with a slide, leading from the outside into the store-room. After the roots are once unloaded on the bottom of the cellar, they can be sorted over and stacked upon the shelves, at leisure. This cellar should be kept as cool as possible without freezing. Carrots will bear a slight nip from old "Jack," and be little worse for it.

2. A slight modification of this plan, where quarry-stone are not abundant, is to lay up the walls with hard-burnt brick or cobblestones. If the region is very cold, and frost is not easily kept from such cellars, place the cattle stalls on the outer sides of the basement, and the root-cellar in the middle. (Horse-stables, it will be understood, are to be made above ground.) Special provision will need to be made for ventilating this mid-cellar. The roots can be conveniently dumped into their place through a chute in the outer wall, or through a trap-door in the floor overhead.

3. Hill-side barns are thought by some to be particularly favorable for storing roots. A correspondent in one of your contemporaries, suggests the following plan, which is very good: "A barn 40 by 60 feet will hold four rows of cattle, containing fifteen head in a row, seven double stalls and one single one, allowing four feet for each animal. The two ends may be fitted up for cattle, and the middle apartment for sheep, with a root-house behind, 10 by 30 feet, or larger if desirable. This makes a very convenient and warm place for cattle and sheep, and a root-house holding 3,000 bushels. It may be enlarged to the length of the barn if necessary. The stalls should be on the sides of the barn, fifteen feet deep, heading toward the center. In front of the stalls may be passage-ways four feet wide, leading from the root-cellar, around the center space, from which the feed can be placed in the troughs on either side. Hay, straw, etc., can be put down through trap-doors, from the threshing-floor above."

4. But in many cases, the farm barn is already built, and without any provision made for cellar-room. In such case, a root-cellar can be constructed along side of the barn, on its most sheltered side. Dig a cellar and wall it up in a

substantial manner, as before directed. Put on the sills, and frame into them widejoists, at least six inches deep. Then put on a tight sheathing of boards on the under side of the joists, and fill up the spaces between with dry saw-dust or tan-bark, and cover the whole with a good flooring. Over this raise a roof. This double wall overhead and the roof will be quite sure to keep out frost. The little room or attic above, may be used for a general store-room of farm utensils, etc. From the cellar below, a doorway should open near the door of the barn, and the doors should be double, to be frost proof, one opening outward and one into the cellar. Ventilation can be had by running up a square wooden tube, six to ten inches diameter, from the middle of the cellar, to be closed when needful.

In a cellar like the foregoing, special care will need to be taken, to have the roots thoroughly dry when stored, and kept dry during Winter. An occasional turning over will be useful. If the roots are kept in bins, as some prefer, these should be made with wooden gratings in the bottom, raised about six inches above ground, to promote ventilation. In a cellar like this, or a common barn cellar, where frost inclines to enter, the tops of the bins or shelves should be covered in mid-winter, with a foot or two of straw.

5. But supposing a barn cellar of no description can well be had, then the roots must be pitted. Choose a dry part of the field for making the heaps. See that the roots are well dried before stacking. If there is any doubt about it, a very little quick lime should be sprinkled in the heap as it goes up. Each pile is to be about six feet broad at the base and four feet high. Cover with straw a foot thick, and six inches of soil. When mid-winter approaches, add eight or ten inches more of earth, pack it hard and smooth. Ventilation may be given to each heap by inserting half a bundle of straw vertically, like a chimney.

For the American Agriculturist.

Clear up the Highway.

One of the greatest trials to a neat and orderly man, is the practice of obstructing the public roads, in various ways. This is sometimes done from mere shiftlessness, and sometimes from stinginess—a desire to get as much as possible out of the public. During the coming Winter, we shall see piles of wood stretching along the side-walk, and often tumbling down upon it; also stacks of boards in the same precarious condition. Opposite a certain man's premises, we constantly see fragments of old carts, sleds, and barrels, rotten logs, heaps of brush and other nuisances. And this man can not see any impropriety in this conduct. Is not the land his own—to the middle of the road?

Now, to say nothing about the looks of the thing, streets so encumbered are unsafe. Many horses take fright at such "pokerish objects," and become ungovernable. Every man, probably, must have piles of rubbish somewhere, but let them be within his own gates, and as much as possible out of sight.

The roads are often obstructed by roving cattle. It may have been allowable for cattle to roam at large in the early settlement of the country; it may be still at the far West; but now in the older settlements, where farms are fenced, and where those who do not own land can get pasturage by honestly paying for it, there is no excuse for sponging it out of the public. There is more harm done now-a-days by trespassing cattle, than in earlier times. Rich grain-fields,

meadows, gardens, lawns—all brought into their present state by hard labor and at great cost—are exposed to destruction by a single unruly beast. In the street, hogs root up the grass by the road side, and befoul the sidewalks. They, with the cows, rub down newly-planted shade trees; they soil neatly painted fences and buildings; and they are a constant occasion of fright to women and children. And then, if a gate happen to be left open, or if a board happen to get broken from the fence, these hungry creatures are sure to find it out. The harm that follows, who can describe? It is not alone the corn-fields which the half-famished herd trample down, nor the ornamental trees, flowers, and shrubs, which they destroy—though this is enough to exhaust the patience of Job—but it is the alienation and bitterness of feeling between neighbors which ensue, followed up, perhaps, by a law-suit which costs the trespasser more than it would to have decently hired his stock pastured the whole Summer.

Quiet and peaceable people don't like to be continually scolding and quarreling with their trespassing neighbors. If they endeavor to get amends for injuries received, they may expect some kind of barbarous retaliation; and yet, if they quietly submit to abuse, the abuse will be increased. We have only to add, that this and all similar modes of obstructing the highway, are gross misdemeanors; they show a disposition to trespass on the rights of others; they are outrages upon society in which no one can persist and claim to be a good citizen. **SUFFERER.**

County and Village Lectures this Winter.

In these war times, all unnecessary expenses must be avoided; and among these, the fashionable Lectures which cost from fifty to a hundred dollars the hour. Such extravagant entertainments may be indulged in at other times, but not now. We want plain, substantial food. We need something to relieve our minds occasionally, from the sad and stern realities of civil strife and bloodshed, but it should be something reasonable in its cost and in its character. Not wholly insensible are we to the attractions of wit and learning and lofty eloquence, but in these sober days, something plainer and more quiet conforms nearer to our taste and feelings.

Accordingly, we suggest that when our village and country friends organize lyceums or associations for lectures and debates, for this Winter at least, *the speakers all be home-made*. The clergy, lawyers, and physicians of the town, should not indeed be excluded, but the main dependence should not be upon them. Farmers, intelligent mechanics, merchants, and business men of all kinds should be drafted into the service. Let each man lecture on the subject he is most familiar with, and in which he feels the deepest interest. Farmers have at hand a thousand topics, attractive and instructive to every body. Mechanics can discourse of implements, of materials, of construction, of inventions and improvements in various handicrafts. Merchants can enlighten us upon the laws of trade, upon production and consumption, and the like. The learned professions may be looked to for filling the gaps in the Course of Lectures.

Doubtless, the first and leading objection to this plan will be that the speakers proposed *can not speak*. What if they can't, then let them *talk*. Fine writing, and carefully-practiced elocution are not asked for. We want information on practical subjects; and we want it from men whom we know and have confidence in. And

besides, the call upon such men for lectures and debates will benefit *them*. It will incite them to reading and thinking, and perhaps to writing. It will teach them to arrange their thoughts in logical order, and to present them in some suitable manner.

What a happy influence such a system would have upon a neighborhood, if it were once heartily engaged in! The dormant talent which so many of our plain men possess, would be developed and aroused to action. Instead of spending their evenings and rainy days at stores, saloons, or other lounging-places, they would be seen poring over books from the village libraries at home, preparing for their lectures or talks. Their conversation would oftener turn upon subjects of practical importance, and less frequently on neighborhood gossip. The children and young people would be occupied less with vicious or foolish amusements, and many a child of talent would be inspired with impulses for self improvement that would ere long place him on the high road to fame. *

Farmers' Libraries.

Having frequently urged the organization of Farmers' Clubs, we now recommend the formation of Libraries for the same persons. If one wishes to inform himself well on the various topics which come up before such a Club, he must have books. Tradition, hearsay, and partial experience are not enough. He should be able to go to the bottom of every subject, to understand its theory, its history, and the conclusions to which science and wide experiment lead. These things can be best got from books.

But every farmer can not be expected to own all the books necessary for such investigations: he can not afford it. The only way, therefore, is for the agriculturists of a neighborhood to club together and buy a library by subscription, to be their joint property. Our school-district libraries generally contain a few volumes on husbandry, which answer well as far as they go, but they do not cover the whole ground. We want several encyclopædias of agriculture, books for immediate reference, giving the gist of a subject in a very few paragraphs. Then we want scientific treatises on particular subjects, which go thoroughly and fully into all the branches of a topic. For instance, who does not like to "dip" at times into such books as Johnson's *Encyclopædia of Agriculture*, and at other times, to take long draughts out of such books as Lindley on *Horticulture*, French on *Farm Drainage*, Downing on *Fruits*, Youatt on the *Horse*, etc., etc. There is a long list of such excellent books, which every farmer and gardener would like to read, though he might not expect to own them all.

We repeat, then, that the way to get the use of such works is to form stock companies of some kind, and purchase them by subscription. Farmers' Clubs might lay an annual tax of one or two dollars on each member, to be used in buying books, and in subscriptions to standard periodicals. These books and papers should be kept at some central and convenient point, and be drawn out, subject to certain rules.

Does any body object to this plan on account of its expensiveness? Such contributions will, in the long run, fill the purse faster than they drain it. Their good effects will be seen in improved fences, buildings, stocks, and crops. They will appear, too, in the zeal, intelligence, economy and enterprize with which the farmer will pursue the labors of his calling. *



AMERICAN FARM SCENES—AUTUMN—FROM AN ORIGINAL SKETCH BY F. O. C. DARLEY.

(Engraved for the American Agriculturist.)

The above engraving completes the series of American Farm Scenes, by Darley, illustrating the four Seasons, three of which have already appeared in our columns during the present year. The scene represents the closing triumph of the farmer's year. True, it has none of the pomp and clangor which attend success in other arenas, but it is none the less a triumph. The golden spoils of victory are being gathered, and the whole household are present to share the pleasure. The principal figure in the group, the old man, is suggestive of the Autumn of life. He, too, is ripening for the final harvest. The confiding children that surround him show that the kindly influences which attend rural life have not been lost upon him. He is mellow at heart, though weather-beaten and hard-handed. A few features of the engraving are open to criticism, especially the position of the driver on the wrong side of his team, but some license must be granted to the artist, who placed the figures so as to give the best general effect. As previously stated, the originals, from which these four engravings are copied, are fine specimens of lithography, of large size, and will be a beautiful and appropriate ornament to the farmer's parlor. They are copyrighted and published by M. Knödel, from whom we obtained the right to engrave them. We can procure the large lithographs for those who may wish, upon receipt of the price, \$5 for the set.

RIGHTS OF GLEANERS IN FRANCE.—The court of highest jurisdiction in France has recently decided that in that country a farmer

has no right to turn sheep into his own fields until two days after crops have been taken off, so that the poor may enter and glean the scatterings. Neither has a farmer a right to let out the privilege of gleaning for payment. This law applies to vineyards as well as grain fields.

Helps to Agriculture Needed.

SUGGESTIONS TO INVENTORS.

Since the benefits of deep tillage and thorough pulverization of the soil have been recognized, it has become apparent that some new implement is needed in place of the plow. With the latter it is impracticable to reach the required depth without great expenditure of animal power, and the work of pulverization is only half performed. Below the line reached by the plow, particularly in clayey soils, there is left a solid compacted surface almost impenetrable by the roots of plants, and almost impervious to air; and this is made worse by each successive plowing. An implement is needed, to be worked by horse or ox power, that shall at one operation invert the surface growth, stir the soil deeply, and not make the subsoil still more dense. The invention of a successful apparatus of this kind will bring a large fortune to somebody.

There is greatly needed some system by which the waste manure of cities may be made available. It is calculated that each living being produces manure enough to sustain plants sufficient to supply it with food. This is partially true only. The excrement of an animal, added as

far as it would extend, upon a soil of average good quality, would probably increase its product enough to nearly supply food for the animal in the increase of the crop. At any rate, if the fertilizing material of cities which now is only a nuisance, difficult of abatement, could be brought within reach of cultivators, their land would speedily be raised to much greater productiveness. Who will originate some practicable scheme to this end?

Cheap portable farm buildings, which might be easily carried to distant points and readily erected, would be of incalculable benefit in new settlements, especially upon the prairies where timber is scarce. A combination of iron and wood may be devised which will answer this end, and give at least temporary shelter to thousands of animals that are now of little profit to their owners for want of buildings. Let inventors make a note of these suggestions, and improve their fortunes and at the same time the agriculture of the country.

For the American Agriculturist.

Convenient Grain Measurer.

The number of bushels contained in a bin or box may be found by multiplying together the length, breadth and depth in inches, and dividing the product by 2150.42, the number of cubic inches in a bushel. A convenient measurer for grain in the bin may be made thus. Take a straight rule, of any desired width and thickness, and 12½ inches in length, which very nearly equals the length of one side of a cubical

box containing one bushel. Divide this rule into 10 equal parts, marking them plainly, as inches are marked on a pocket rule. Subdivide the spaces each into tenths: these divisions will represent tenths and hundredths of the scale, and in measuring will be considered as decimals of a bushel. To use this rule, measure with it the length, breadth, and depth of the bin, multiplying together the dimensions given by the scale, and the product will be bushels and decimals of a bushel: Thus a bin measuring by the scale 8.5 in length, 6 in width, and 4.5 in depth, will contain 229.5 bushels. This measure (12 $\frac{1}{2}$ or 12.9075 inches) is not perfectly exact, but near enough for all practical purposes; as in buying and selling grain, it is usually weighed or measured by the standard. J. W. B.

"Land-Poor."

This expression is well understood at the West, where at present it is almost impossible to sell land except at enormous sacrifices, and where if held, it is burdened with heavy taxes. It is a common proverb, in such cases, that "the more land a man owns, the poorer he is." But there are land-poor men everywhere. They are those whose farms pay only a fraction of the interest on their cost. They are those who are carrying on some grand system of agriculture, which, though very splendid and imposing to spectators, does not yield a profit on the money and labor invested; for, that only is the best farming which renders the greatest proceeds from the least toil and expense. It does not avail us to be able to show great crops, if meanwhile the cost of producing them is proportionably great. Gentlemen of fortune can amuse themselves with such fancy-farming, if they like, but ordinary farmers can not. The grand thing to be aimed at, is to increase the productiveness of our lands, faster than we increase the cost of working them.

It is often a great mistake for one to enlarge his farm. It gratifies a man's pride to be known as a large landholder; and it is a source of much satisfaction to look out over one's broad acres, and to walk across them, and to gather in their teeming crops. But not everybody is able to own such a luxury. Increase of land brings increase of taxes, labor and care. Seldom is it wise to run into debt for much land. By no means wise, unless one is quite sure to raise enough from it to pay the increased taxes, interest money and labor. Let Naboth's vineyard alone.

Keeping Apples in Germany—An American Fruit Cellar.

John Rossbach, Essex Co., N. J., writes to the *American Agriculturist* that he formerly superintended a large orchard in Germany, where the fruit was kept as follows: A large cellar was provided, seven feet in depth, half of it being built above ground. The walls were 2 $\frac{1}{2}$ feet thick, and 12 windows were made; shelves, 2 feet wide, and one foot apart, were erected around this room and through the center, leaving passages to walk between. The fruit was all picked carefully by hand, and placed in single layers on the shelves. Except in freezing weather the windows were left open, and during severe cold they were covered with straw. All decaying apples were removed at once, being readily detected as they lay upon the shelves. The fruit kept in good order until late in Spring.

REMARKS.—This is an excellent method, if not

the very best one for preserving apples well all through the Winter and Spring. We began a similar practice twenty five years ago, and succeeded well in the colder latitude of 43°. The cellar then constructed, and still in use, is arranged as follows: It is 8 feet high, well drained, and free from dampness—the walls being laid in mortar, well plastered on the inside, and the floor made as solid and dry as stone by a coat of hydraulic mortar. The windows are hung on hinges, and are double glazed—glass on the outer and inner sides of the sashes. Frost is kept out, but the windows are always open except in the coldest weather. The cellar is divided into two distinct apartments. The warmer one under the constantly heated kitchen and living room, is devoted to potatoes, root crops, and general family use. The other one, the fruit cellar, is kept down nearly to the freezing point. The fruit shelves are arranged around the outside, near the walls, and in tiers across the middle portions of the room. Posts or scantlings are set up in pairs—the pairs being six feet apart, and the posts 2 $\frac{1}{2}$ feet from each other. Cross pieces for holding the shelves are nailed across the uprights—one 8 inches from the ground, the next 18 inches above the first, the next as much higher, there being 4 shelves in each tier, arranged like berths in a ship or canal boat. Narrow boards are laid on for shelves, with large cracks between them to admit a free circulation of air. Narrow side pieces keep the fruit from falling off. The outside tiers of shelves are far enough from the walls to allow a passage way. The apples are carefully placed on the shelves, two to four deep, according to their abundance. Beginning at one end the fruit is sorted over every eight or ten days, and any apple slightly diseased or injured is thrown out. The apples thus placed on these shelves, and in a constantly cool dry atmosphere, keep sound for many months. For smaller quantities, fewer shelves will be needed, but the cellar should always be kept cool and airy, whatever the quantity of fruit stored.—Ed.]

For the *American Agriculturist*.

Apples Preserved in Sawdust.

MR. EDITOR: The inquiry of one of your subscribers, in the Sept. *Agriculturist*, concerning the packing of apples in dry leaves, reminds me of an experiment I made many years since, which may throw some light on that subject. I packed them in dry hard-wood sawdust, taken from a cabinet shop; placed them in a cold, open garret, intending to remove them to a warmer place before cold weather; but forgot them till the coldest month, January, was past.

Thinking that they were then frozen of course, I did not meddle with them till Spring. On opening them, I found a few, not more than one in a dozen, entirely decayed, not a speck of sound tissue in them, and almost as dry as dried fruit, appearing much like it, excepting the dark color; while all the others were in a state of perfect preservation. From the fact that the decayed ones were wholly decayed, and that there were none half rotten and half sound, I concluded that those which were rotten, must have been imperfect at the time of packing, that they had probably received a slight bruise, by which the tissue was broken, and incipient decay commenced. Another conclusion was, that the fine sawdust, made with a circular saw from highly seasoned wood, was so good an absorbent, that it took up all the moisture from the decayed apples and held it fast, communicating

none to those that were lying near them.

But why were not these apples frozen? Or had they been frozen, and thawed so very gradually as not to injure their texture? The thermometer, that Winter, had been down to zero many times; and in one "cold spell" it had been in the neighborhood of zero for more than a week. My impression from that experiment was, that if apples be put into fine, perfectly dry sawdust, and kept in a cold place, those which are sound throughout when packed, will remain so until Spring, and that those which decay from any imperfection at the time of packing, will not communicate dampness, in any hurtful degree, to their neighbors, provided not more than a bushel and a half be put into a barrel, and the remaining space be occupied by the sawdust. Coldness, (not as severe as in the case above, and dryness should, I think, be recommended as the requisites for preserving apples and other fruits. For securing dryness, some other absorbent, (to take up the moisture from such as decay from imperfection or injury,) might be as good as sawdust; but I doubt whether leaves would, and whether any thing else would, which could be so cheaply obtained. J. A. N.

REMARKS.—It is dangerous to allow apples to freeze under any circumstances. Some varieties occasionally remain sound when both the freezing and the thawing are very slow. In the above instance, probably the sawdust and the partial protection of the garret, together prevented severe freezing—sawdust of the kind described is quite as poor a conductor of heat, as are the best woolen garments. Mr. J. A. N. does not seem to have had much faith in the method, accidentally successful many years ago, or doubtless he would have followed it up himself, and been able to give the results of further and more recent experience.—Ed.]

A Hint or Two for Tree-Lovers.

Those who love trees for their beauty, will be pleased with the following paragraph which we have just met, and copy from a rare volume:

"A careful and eloquent observer of Nature describes the leaf as a sudden expansion of the stem that bore it; an untrollable expression of delight on the part of the twig, that Spring has come, shown in a fountain-like exaltation of its tender green heart into the air. And to hold this joy, Nature moulds the leaves as vases into the most diverse and fantastic shapes—of eggs and hearts, and circles, of lances and wedges and arrows and shields. She cleaves, and parts, and notches them in the most cunning ways, combines their blades into subtle and complicated varieties, and scollops their edges and points into patterns that involve seemingly every possible angle and line of grace."

And this reminds us of a hint derived from a recent botanical authority, on the natural and proper training of trees. He maintains that a leaf *with a leaf-stalk*, implies that the tree to which it belongs has naturally a bare trunk for a certain distance; but that a leaf *without a stalk* shows that its parent tree is naturally branched from the ground. He also shows that there is a correspondence between the disposition and distribution of the branches of the trees.

If the first of these points is true, it shows that evergreens should be trained with their lower branches reaching to the ground; and that the practice of hewing them off is unnatural and absurd. Whether this principle does not also apply to some deciduous trees, we have not yet examined. It is worthy of observation.

For the American Agriculturist.

How I Raise Grapes—Grapes in Cities and Villages—Farmers Read.

It is surprising, Mr. Editor, that so few farmers raise grapes, even for home use. The *American Agriculturist* has said a good deal on the subject, but not enough yet, I find; for only last week some of my friends living on a farm of 100 acres were in ecstasies over a nice basket of grapes, received from my three-year old vines growing on a city lot of only 25 by 75 feet, and having only 20 feet square for a garden. They had grown no such luxury, and yet they subscribe for the *Agriculturist*! The fact is, they confessed that they had always skipped over all the grape articles as something for amateurs or horticulturists, and not for farmers. I showed them how easy it is to get good grapes in abundance, and at little cost and trouble, and they at once decided to put out a few vines without further delay. They thought I ought to tell the readers of the *Agriculturist* just what I told them; so here it is:

Three years ago last Spring I built, at odd hours, a rude frame-work against the south-west side of my house, which answered not only as a trellis for grape-vines, but also as a screen against the sun on hot afternoons, when covered with foliage. Six posts, six feet above the ground, were set five feet apart, and ten feet from the house. Strips were nailed across, and small rafters run from the tops of the posts slanting up against the side of the house, with strips across them also. Such a frame work, though convenient, is not necessary, as the vines may be trained up against the side of a house, or on a fence, or almost anywhere else that any thing can be found for them to run on.

Now for the vines. Four holes, 3 feet across, and 3 feet deep, were dug at the outside of the frame, and one at each corner of the house. These holes were filled with good surface soil obtained from the top soil of a cellar being dug near by. Some bones from the butcher's, and some chip manure from the wood shed were mixed in with the soil; also a barrow load to each hole of well-rotted manure—the sweepings from a livery stable near at hand. A moderate quantity of soap suds and dish water applied from time to time since, is all the fertilizers given. After the holes were dug and filled as above described, I obtained six Isabella grape vines, two years old, and well rooted, at a cost of 37½ cents each. These were carefully set, spreading the roots. The first year about six feet of vines were made. In Autumn I cut them down to within two feet of the ground. The next Spring a single shoot from the bottom eye of each stalk was trained up the frame, and grew about 12 feet. About 4 feet of the tops were cut off in Autumn, and the remaining 8 feet simply laid down upon the ground at the bottom of the trellis, out of the way.

In the Spring, when the buds began to swell, the canes were tied up on the frame or trellis. All the eyes sent out one or more side bearing shoots, but where more than one shoot started from the same eye, it was rubbed off. The others mostly set fruit, of which only one cluster nearest the main stem was allowed to grow on the same side shoot. When the fruit was about the size of peas, I stopped the further growth of the side shoots by pinching them off two leaves beyond the cluster. The result was, fine large bunches of grapes along the whole of the 8 feet of the previous year's growth. In the

mean time the vines extended upward over the trellis, and enough side shoots were allowed to grow to partly cover the trellis or frame. In November I cut off about 2 feet of the ends of the main stems, and of the leading side shoots. The bearing side shoots were cut back to one bud from the main stem. The whole vines were then coiled up and laid down for Winter on the ground. In Spring the vines were tied up, and the same course pursued with the main stems and branches as with the main stems last year. This year I have had about 15 pounds of fine grapes on each vine. If all had grown without pinching off, I should have had 50 pounds to the vine, but I am seeking to get good strong healthy vines. The two crops have paid all trouble and cost thus far, and I shall hereafter have a large crop annually, with little further care or expense.

CIVIS.

Tilling Orchard Lands.

It is doubtless well to cultivate the ground in which young orchards stand. By this, we mean that the land is to be manured and worked, as well as cropped. It is supposed, also, that in plowing great pains is taken to guard against barking the young trees by the whiffle-tree, or having them gnawed or broken down by horses. But when the trees have arrived at bearing age, it is better to suspend plowing among the roots. The loss will be greater than the gain, for it is impossible to avoid loosening and breaking the roots; and if this be done, it is sure to engender disease, stunt the growth, and lead to premature decay. When an old orchard, having long stood in sod, gets napping, moss-grown, and scantily fruitful, the best way is to scarify the surface with a harrow, and afterward apply a good dressing of manure.

Wounds in Trees.

The best way to manage them is to trim the edges smooth with a sharp knife, and then apply grafting wax, or clay, or dissolved shellac. The latter we have used for many years, and value it highly. Get about four ounces of the gum at an apothecary's, break it up fine, and put it in a bottle. Then pour in a quart of alcohol, and shake the whole vigorously together. It will be of the consistence of cream, and may then be applied with a brush. It soon hardens, and forms a varnish which protects the wound from air and moisture, and permits the bark to heal over before the wood beneath has decayed at all. Whenever a tree is pruned, all limbs larger than one's finger should be at once covered with this or some similar preparation.

Feeding Trees.

A friend asks what he shall do to make his lawn trees grow more vigorously. They have been ten years planted, yet do not grow as rapidly as they ought, and the foliage does not look bright and green.

For all ordinary purposes, it is sufficient to spread old manure on the surface of the ground over the roots in the Fall of the year, raking off the coarser parts in the Spring. A large part of the virtue of the manure will find its way into the soil between November and May.

But where this does not suffice, one can adopt the plan often employed by arboriculturists in Europe, viz.: of feeding the trees in trenches. It is, substantially, as follows: Ascertain by a

little examination where the main roots of a tree lie, and, having followed each one out to its extremities, open trenches there, say two feet wide, throw out the poor soil, and fill its place with rich virgin mold from an old pasture. Or any common garden soil will do, enriched, perhaps, with a little old manure. Fill up the trenches, and cover the same with the sods first taken off. In doing this, however, great care will need be taken, to avoid mangling the small fibers. Better not undertake the work at all, if it can not be done leisurely and carefully. Where the operation has been well performed in the writer's own grounds, the trees so treated have started into fresh luxuriance, making rapid growth of wood, and putting on new richness and beauty of foliage.

Making the Kitchen and Fruit Garden Ready for Winter.

1. This is the great month for pruning grape-vines. Do you prefer the *spur method*? Then cut back the laterals to two buds. One bud would be enough to leave, were it not possible that the Winter would kill it, and so leave you nothing to depend on. If the canes have been spurred many years, and lost a good portion of their eyes, it will be well to cut down a part of them every year, and train up new canes, until the whole vine is renovated. Or, perhaps you prefer the *renewal mode*? Then cut down all the canes that bore fruit the present year, and train up the new canes of this year's growth. Distribute the canes as evenly as possible over the trellis. When the pruning is done, let the vines rest for ten days or so, and then lay them down for the Winter. All tender grape-vines should be loosened from their trellises, laid on the ground, and covered with a few inches of soil. Fasten them to the ground with short stakes, or a few old boards laid over them carefully, so as not to break the canes or injure the buds. Use no straw in covering them, as it is apt to attract mice. If you have some of the newer varieties which it would be desirable to propagate, now is the time to save the trimmings taken off in the Fall pruning. Cut them into pieces a foot or eighteen inches long, with two or three buds on each. Lay them away in moist sand in the coldest corner of your cellar; or they may be buried a foot deep in the driest part of the garden. In Spring, the ends of the cuttings will be firmly calloused over, and will emit roots at once.

2. Raspberries should now go into their winter quarters. Bend the canes carefully to the ground, fasten them there with short stakes, throw on a light dressing of garden litter, such as carrot and beet tops, or old tomato and potato vines, then put on a covering of common soil two or three inches thick. They will come out in Spring with every bud fresh to the tips.

3. Strawberry vines will sometimes winter well without any artificial protection, especially if snow lies on the ground all through the cold season. But to make sure work, the best way is to cover the vines on the approach of cold weather. Some use spent tan-bark or saw-dust; others use leaves, preventing their blowing off by the winds, by laying a little brush upon them; others use long manure from the barn-yard. We have tried each of these methods successfully, but prefer the tan-bark when it can be obtained. Where this is used, a part of it should be removed on the opening of Spring.

4. If there are rows of dwarf pears in some

of the borders, let them receive a top-dressing of old manure, say two inches thick. Then, lay two or three shovelfuls of common soil on the top of this, immediately around the trunk of each tree, to protect the bark from mice. The dirt is to be thrown off in the Spring, and the manure to be forked in among the roots.

5. It is taken for granted that all vegetables are now safely housed,—beets, onions, cabbage, cauliflowers, potatoes, carrots, celery, turnips—what a goodly show of comfort they make in one's cellar!

6. Now gather up all foul stuff from every nook and corner of the garden, and make a final bonfire. Be sure to include all weeds with their seeds in the burning. When this is done, then, as a final work, throw the whole ground into ridges with the spade. One year, let the ridges run east and west; another year, lay them off north and south. Take pains each Fall, to throw up more or less of the subsoil on the top of the ridges, that it may be disintegrated by the frost. In the Spring, these ridges are to be leveled. It will be found that where this practice is followed, the ground becomes dry and warm early in the Spring, the soil is gradually deepened and ameliorated, and vermin and noxious weeds are killed out. This practice is more important on stiff clay lands, than on light, sandy loams.

Planting Potatoes in Autumn.

A writer in the Rural Economist recommends to plant potatoes in Autumn in order to have them early the next season. He directs to dig the ground thoroughly, mixing in a liberal application of old manure. Select good sound potatoes of medium size, which are to be planted whole. Provide a dibble of hard wood, one and a half inches thick, with a blunt point, and having a cross piece about six inches from the end to regulate the depth of planting. Make the holes in rows three feet apart, and nine inches distant in the row. Drop a potato into each opening, and press the earth upon it with the dibble. Let this be done early in November, and before hard frosts. Give the land a heavy dressing with long manure, which may be removed early in Spring. As soon as the sprouts appear, fork up the bed between the rows. As the sprouts grow, pull them out so as to leave not more than three to each plant. In this way it is said very early potatoes may be had. [This may do in a mild climate.—ED.]

Harvest the Roots.

The root crops being the last to be taken from the garden, are often neglected until injured by hard frosts. Beets are easily spoiled by having their crowns frozen, which will cause them to decay early. If they are not already secured, take them in at once. Carrots may remain a little longer if desirable, except the white variety, which is more tender and should be cared for early. There is little to be gained by leaving either variety in the open ground after Nov. 1st, as little or no growth is made. Turnips are very hardy, and may be left until the middle or last of the month; they will gain considerably in growth if the weather remain mild. Parsneps and Salsafy or Oyster Plant, are improved in flavor by being left in the open ground until Spring. The action of frost converts part of their starch into sugar. A few may be taken into the cellar for occasional use through the Winter. If this be done, keep them

buried in sand. Dig also a few roots of horse-radish and keep them in sand; they will be ready for use much earlier in Spring than they can be dug from the open ground in the garden.

All roots should be kept dry and cool. If stored in the house cellar, let the bins be removed as far as may be from under the rooms where fire is most used. A ventilator should pass from the root cellar to the chimney flue, or to the upper part of the building, and thence to the open air, to carry off the moisture escaping from the roots. This precaution will in some cases prevent frost. A friend informed us that he had always banked up his cellar to keep out frost, but seldom fully succeeded. One Winter, having neglected it, the frost did not enter, although the cold was intense. The crevices had afforded ventilation, and the roots had been kept dry. Avoid all bruising of the roots, and after they are stored, examine them frequently to remove any decaying. Other suggestions on storing roots may be found on page 334.

Keeping Winter Squashes.

First in importance, they should be well ripened before harvesting. This will occur in nearly all the Northern States, by the first of October. They should be picked before hard frosts have injured the rind; and the gathering should be done in the middle of a dry day. For a month or more after being harvested, they may be kept in a barn or other out-building, not laid in large heaps to accumulate moisture and heat, but spread on the floor, a little straw being laid under them to prevent bruising. On cold nights, late in October and during the first of November, cover them with a little straw. When there is real danger of freezing, carry them into the cellar for the Winter.

But there is a great difference in cellars. One that is warm and damp, is a poor place to preserve any sort of fruits or vegetables from decaying. Some persons maintain that a warm and dry basement or stove-room is the best of all places for squashes. A horticultural contributor to the Tribune holds that "a dry store-room, or furnace-heated apartment, that never gets cold enough to freeze, or a closet near a fire-place, are good places in which to keep squashes and pumpkins. They also keep well, if hung up in baskets or bags overhead in the kitchen, or on a hanging shelf."

In our own experience, such warm rooms, or closets where the temperature varies much, are poor places for the purpose. We succeed best with squashes kept in a cold, dry cellar, and not exposed to much light. Theoretically and practically, heat, moisture and light are found to promote rapid decomposition. The squashes should be placed on shelves separately, and with a few thicknesses of paper under each.

The Ampelopsis in England.

In the Autobiography of Leslie, the artist, lately published, we find the following passage:

"The country about Dawlish is all hill and valley, very luxuriant and beautifully diversified with gentlemen's seats and villages. The cottages and churches are of the most brilliant white, and a kind of vine which is generally seen spreading over the walls of the former, the leaves of which are at this season (November) a bright crimson, produces a beautiful effect." The painter doubtless alludes to the Ampelopsis, or American Ivy.

Most Important Corner of a Garden.

On page 344 one of our associates has said something to the children about *their* garden. We must add a word or two here specially addressed to all who have the care of children—their own or others'. Those who have chanced to visit our homestead the present year, were perhaps a little surprised on passing from the lawn to find at the very entrance to the beds or flowers and vegetables in the garden, a somewhat irregular plot containing a great variety of different kinds of plants growing in apparent confusion, but not entirely without system. Here were beets, carrots, onions, cabbages, sweet peas, strawberry plants, potatoes, dahlias, turnips, nasturtiums, morning glories, and perhaps thirty other things—some in pots, some in hills, some in rows, some in beds, some on mounds of earth, and so on. Boards laid on the edges and held up by stakes driven down, marked the boundary lines. All this was the work, and solely the work of three children, the oldest a girl not seven years of age, the others boys of nearly three and five years old. Their ground was planted with scattering seeds they had collected, or voluntarily asked for, and with refuse plants thrown into the walks by the gardener. Every thing of this kind was seized upon as a lawful prize and planted, watered, and watched with the greatest care and solicitude.

And what was the result? These three little ones spent many hours daily in out-door healthful exercise, and away from temptation. They asked questions innumerable, and studied the habits and wants of the plants with the earnestness of philosophers. They watched the gardener in all his operations, and practiced the lessons they thus learned. No one interfered with their operations on their own territory, or offered a word of unasked advice. They were led to think and observe for themselves, and this we believe to be the true *education* (drawing out thought). Without any attempt to teach them directly, the older of the three has learned to name and describe thirty to fifty flower plants in our own larger garden, and the second in age has learned the names of at least twenty.

And we too, have learned anew an old lesson, and feel more forcibly than we have ever tried to write hitherto, the value and importance of a children's garden. If we and our children live to another Spring, a larger garden for them, and more facilities for its culture will be the first thing provided. (They have already laid by dozens of little papers of seeds, and show that their experience has developed provident habits.)

Now what we intend for our own little ones we would earnestly bespeak for all the other children belonging to the great "*Agriculturist* Family." Parents, or guardians, a square rod or two of ground, or more, for your children, will not be missed from your broad acres, or your village plots. Let them have a garden of their own—entirely their own—not to be interfered with by any older person whatever. Let it be understood that they are permitted to cultivate it just as they choose, and when they choose, and to enjoy or dispose of the product at their own pleasure. Look in upon their operations not to criticise but to express pleasure by looks and words. Begin now to talk about their next Summer's garden, and suggest the saving or gathering of seeds. Do this, and from the nature of the case, as well as from what we have seen, we can confidently predict that after one year's trial you will need no second hint.

Green-Houses for the People... No. II.

(Continued from page 308.)

In addition to the simple arrangements for preserving plants, referred to in the previous article, our gardener, Franz M. Otto, who originally came from Hamburg, Germany, describes

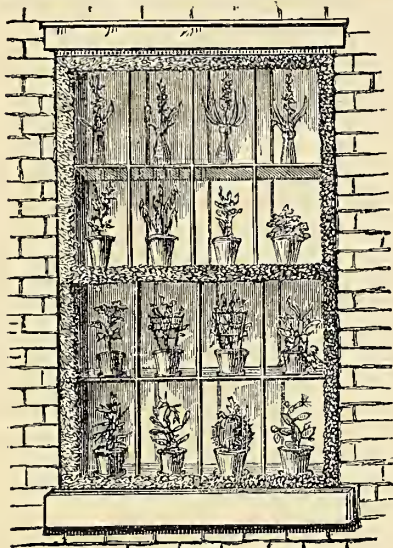


Fig. 4—DOUBLE WINDOW.

a pretty arrangement he has seen in Europe, though not very common there as yet. The bench or sill of a window is made wide, and double sashes are put up—one on the extreme outside of the wall, and the other on the inside. This leaves a space between the glass of 8 to 12 inches. Light cross shelves are inserted at different heights, and plants in pots, and bulbs in glasses, are arranged upon the shelves. These present a beautiful lively appearance in mid-winter, whether viewed from without or from within. Sometimes a light frame work, of the form and size of the window, is thrown around the outside casing of the window, with one or more light bars across the middle opposite the joining of the sashes; and upon this frame a wreath of green moss is fastened with thread. Fig. 4 presents an outside view of a window so fitted up. If the window be large, there may be additional perpendicular and horizontal bars covered with moss, giving the whole a still more lively look. A very little trouble, and the simple expense of an additional sash, which will increase the warmth of the house and save fuel at the same time, is all that is required to fit up a window in this manner. The inside sashes are movable of course, to allow for heat and ventilation, as described for bay windows, page 308.

A LEAN-TO GREEN-HOUSE.

Let us here recall the original proposition, viz.: that a green-house is essentially any structure so under control that there can be secured at all times, plenty of LIGHT, MOISTURE, and VENTILATION, and a TEMPERATURE that will always preclude frost. A green-house may be placed by itself, or it may adjoin a dwelling or other building. The simplest form is a lean-to, on any side of a building except the north. Fig. 5 gives an outline form. The general architecture and form should harmonize somewhat with the building against which it is placed. To economize heat and labor, it should stand nearly on the ground level, if a dry soil underneath can be secured. The foundation, carried say 20 inches above the ground, may be of stone or brick work; or strong posts of durable wood may be set in the ground and covered on outside and inside with boards,

filling between with any dry substance, such as coal dust, tan-bark, shavings, sand, or dry loam. In Europe a foundation is often cheaply made by using clay mortar in a mass, coating when dry with tar, or plastering with cement. The length of the structure may be any where from 15 to 50 or 500 feet. The highest part of the roof should be about 10 feet inside measure, above the ground floor; and the lower side $4\frac{1}{2}$ to 5 feet. If the foundation wall be 20 inches high, the sashes on this side will be $2\frac{1}{2}$ to 3 feet high, after allowing for sill and plate. Any unnecessary height only increases the space to be warmed.

The general construction may be the same as described for cold graperies, (Sept. No., page 272, which see,) with this difference, that a green-house needs more light and ventilation during Winter, to secure which, one side and the ends are covered with glass in sashes. The sashes on the lower side are hung by hinges at the top, with a flat iron bar attached to the lower side to push them outward. An iron pin on the sill fitting into holes or notches in the bar, enables one to fasten the sashes at any desired elevation. The end coverings may be simply sashes permanently fixed. If the closest economy be studied, the roof sashes may be just as described for cold graperies. It is more convenient for Winter use, to make these in two parts, one a short sash at the top sliding down over the longer one below, as shown in the first two sashes in fig. 5. The third sash shows the single sash arrangement. Weights and cords over pulleys for raising and lowering the sashes are easily and cheaply provided, and are very convenient, but the simple arrangement of hooks

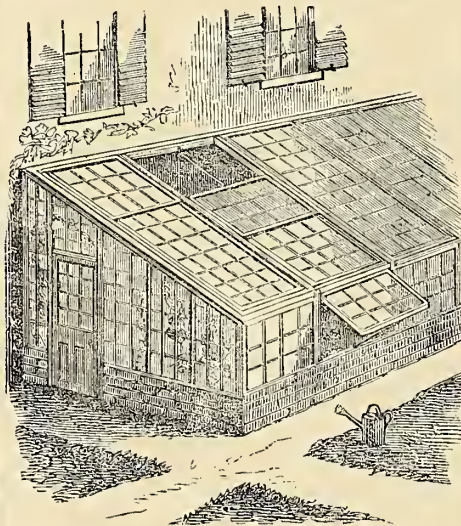


Fig. 5—LEAN-TO GREEN-HOUSE.

and staples described for cold graperies may be made to answer.—So much for the general structure of one of the cheapest, simplest forms of green-houses. A multitude of other forms might be given, but our main purpose here is to suggest the cheapest methods, and to indicate at the same time the principles to be followed in all forms, however complex, artistic, or costly.

HEATING GREEN-HOUSES.

The cheapest plan for warming a lean-to green house, is to have it connected by a door directly with a living room of the dwelling which can be kept warmed by a stove during cold nights as well as in the day time. The air passing through the connecting door will generally be sufficient for a small green-house. In extreme cold weather, mats, blankets, or other covering on the outside of the glass may be useful to save fuel. The more hardy plants may be arranged

on the outside, furthest from the door. The objection to this mode of heating is, that unless the whole air of the dwelling room be kept unpleasantly moist, the air around the plants will be too dry, especially in very severe weather when much fire heat is required. But even this objection is not so great as to prevent any one from having a green-house by his dwelling.

A second, and still better mode of heating economically, may be adopted when the dwelling is warmed by a furnace. The hot-air pipe from the furnace should enter the green-house at the bottom, and if convenient, in the part most exposed to cold. A broad pan of water

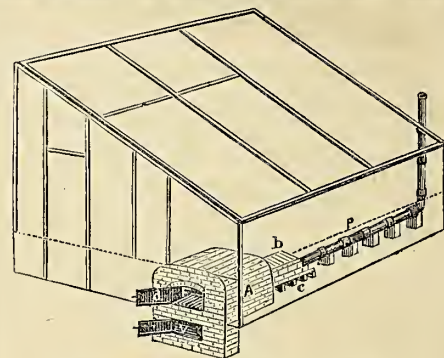


Fig. 6—HEATING FURNACE AND FLUE.

set just over the opening of the pipe will serve both to spread the rising warm air, and to supply moisture. Every hot air furnace should be provided with an apparatus near the fire for charging the heated air with moisture, whether it is to go into a dwelling room or into a green-house. (See on this subject, page 324, Nov., 1860.)

A third method of heating, and one still common in green-houses in this country, is to place a stove in one corner and conduct a pipe from one side downward and along near the bottom, and then out at the rear, running the pipe up far enough on the outside to secure a draft. The pipe needs to be of galvanized iron, or it will rust through in a season or two. The difficulty of maintaining a uniform, low heat in such a stove, is a serious objection, but we know of commercial green-houses so warmed.

The fourth and next cheapest mode of heating, and a better one than any of the preceding, is to construct a flue of brick work, with or without the addition of common earthen ware pipes, as shown in fig. 6. F is a furnace or fire place surrounded with brick work, arched above, with a grating of iron bars below. For a small green-house, the fire vault, if for coal, may be say $1\frac{1}{2}$ feet wide, $2\frac{1}{2}$ feet high at the center of the arch, and running back say 2 feet. If wood is to be used, it should be rather larger than this. An iron door d, shuts against an iron frame in front of the fire. The grating stands about on a level with the floor of the green-house. Below this, in the ground, is a vault for ashes, with a sheet iron door to regulate the draft and take out ashes. An excavation outside the green-house, bricked around, is required in front of the vault, v, to give access to it. The doors F, and V, are to be just outside of the green-house, so that ashes, dust and smoke, shall be kept entirely from the plants. The brick-work around the fire may be built similarly to a baker's oven. A brick flue should be continued back from the fire oven at least 4 feet, to absorb the strong heat nearest the fire. This brick flue may be continued entirely through the house into a chimney at the rear. A cheaper plan, however, is to make the continuation of common earthen ware pipes, 4 to 6 inches in diameter, and fitting into each

other, as shown in fig. 6. The flue, whether of brick or earthen ware, should start about on a level with the ground, and gradually rise half an inch or so in the foot, as it is continued through the room. As a foundation for the brick work behind the fire, boards may be used, or better, stones

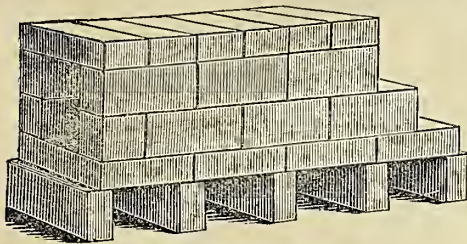


Fig. 7—MODE OF LAYING BRICKS.

laid in the ground up to the surface. Then set bricks on edge cross-wise, so far apart that flat bricks laid lengthwise will break joints upon them. For the sides of the flue, lay 2 bricks, one on the other edgewise, and cover with bricks laid flat across the top, as seen in fig. 7. If the bricks be 8 inches long, 4 inches wide, and 2 inches thick, this will leave a flue 4 inches wide and 8 inches high in the clear, with only a single thickness of brick on every side. The openings between the supporting bricks admit the free passage of air underneath, affording additional heating surface at the bottom. As lime mortar is liable to crack, it is better to lay the bricks in worked clay, or good clay loam mixed with a little lime, or with cow dung. After drying thoroughly, white-wash the whole; this will also stop cracks, and improve the looks.

Japan Lilies.

There are three leading varieties, named *Speciosum*, *Album*, and *Punctatum*. The first has a ground color of clear rose, shading to white, covered with numerous small projections of bright crimson. The *Album* is pure, virgin white, with the same projections as the former, but without color, and compared by some one to "frost work and snowy stalactites." The *Punctatum* has a white ground color, the petals studded with rose-colored projections, and spotted with the same tints. All of them are remarkably fragrant; the perfume is most delicate and refined, making them very desirable.

It is supposed by many that these plants are not hardy; but all the protection they need in Winter is six or eight inches of leaves fastened down by a stone, or a grass-sod. A little experience shows that they thrive best if transplanted every three or four years, into new earth. While they succeed well in any good garden soil, they do better in a border prepared as follows: "Two parts from an old hot-bed, composed of leaves and horse manure, at least two years old; one part sandy peat." No garden can be complete without these superb Lilies.

For the American Agriculturist.

Hyacinths in Glasses—An Improvement.

Hyacinths look much prettier in glasses than in flower pots, but they do not thrive near so well in water as in good soil. We may secure strong, healthy plants with fine large flowers in glasses, as follows: First secure good sound bulbs as early as possible; those that have not commenced to grow are preferable. Put them into pots about 8 inches across, in a composition of two parts good loam, one part well decomposed manure, and one part sand, well

mixed together. When potting, leave the tip of the bulbs just above the soil, putting only one in a pot. When this is done, carry them into a cellar, and place them into one corner out of the way, where they will not freeze; then cover them about four inches deep with sand, or any kind of soil, to prevent the roots from pushing the bulbs up. Keep them there till they grow about two inches, then bring them gradually to the light, letting them remain in the pots until they have grown about five inches high. Then turn them carefully out of the pot, and dip them gently up and down in a pail of water until every particle of soil is washed from the roots. When this is done, insert the roots with great care into hyacinth glasses, and fill up with soft water. The water must be changed once a week; let it stand in the room 24 hours before pouring into the glasses, so as to be as near the same temperature as possible. By following this, you will easily have strong healthy plants that will bloom beautifully. GAINESBOROUGH, Cold Spring, N. Y.

A Safe for Umbrellas.

Custom is the only foundation for some laws, but we have never yet seen a legal decision settling the mooted question whether, by a law of custom, a man acquires an absolute right to an umbrella by the simple fact that he has "taken it" where he happened to find it. However this may be, an ingenious Yankee, Foote by name, has settled the question that a man can not always "take" the umbrella. The annexed engraving, (fig. 1), illustrates how he is "estopped." C is the pan for catching the drip; B, the rings for receiving and holding umbrellas; while A is a lock which holds the handle so firmly that no one can remove it except the holder of the key. One of the locks is shown in fig. 2. It has two circular plates with corresponding slots in each, large enough to hold the handle. On turning the top piece one quarter round, an inside lock closes, and the handle is held fast. It is impossible to turn the plate back without using the key, (S,) which is a small bit of metal to be carried in the pocket. In fig. 1 there are six locks. Some stands are made

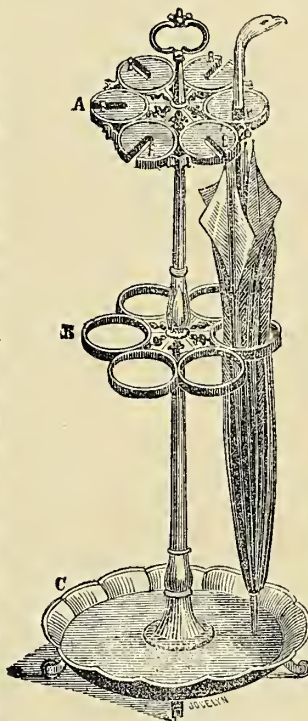


Fig. 1.

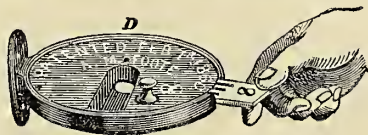


Fig. 2.

ponding slots in each, large enough to hold the handle. On turning the top piece one quarter round, an inside lock closes, and the handle is held fast. It is impossible to turn the plate back without using the key, (S,) which is a small bit of metal to be carried in the pocket. In fig. 1 there are six locks. Some stands are made

with only one, and from this size they run up to 28 or more locks. Such large stands are well adapted to hotels and public halls. No two keys or locks are made alike, so that any man can lock up his own umbrella, and leave it safe. The stands are made of iron, in good style, and are ornamental as well as useful. The cost is about \$1 for each lock, which is not much higher than a common stand of the same quality.

THE HOUSEHOLD.

Cheap Food for the War Times—Important for Every Housekeeper, and for her "Quarter-Master"—Making \$40 go as far as \$100—Thirty Three Methods of Cooking Indian Corn.

Economy is the word now, or should be, in every family. Some are compelled to economize; others do so from motives of benevolence, that they may be better able to assist their less fortunate friends and neighbors; while others, will practice economy from patriotic motives. There are over twenty million inhabitants in the Northern and Middle States. If by economy in food, clothing, luxuries, furniture, carriages, and in sundry other items, the average reduction of current expenses for one year be only 7 cents a day each, the savings will amount to over five hundred million dollars (\$500,000,000!) This would balance the four hundred millions expended by the government, and leave one hundred millions as an offset to the extra expenses and contributions of those not connected with or employed by government, so that the nation would have quite as much wealth after a year's war, as if peace had prevailed and the people had gone on in their previous modes of living. The half million soldiers will of course save money during the year, for even the humblest private gets all his food, clothing, and traveling expenses, besides \$156 in money, which all come out of the four hundred million dollars expended by the government, while the balance is nearly all paid to manufacturers, laborers, cultivators, etc., here at home.

We believe the people can and will reduce their expenses 7 cents a day each, on the average. With some the saving will amount to but one or two cents daily, while others will far exceed the 7 cents. There are many ways in which people can expend less than they would have done under other circumstances. In the single item of clothing much will be saved. Some will buy one coat or one dress less. Some will wear a \$4 or \$5 bonnet instead of a \$7 or \$8 one. Some will wear a good substantial pair of boots or shoes instead of a fancy pair that would cost more and give out sooner—and this will be a manifest saving of health and comfort. The old harness will do to drive to church or to town for another year. But we can not particularize further. One of the few good effects of this war will be to bring us back to more economical habits which will cling to us afterward.

The main object of the present chapter is to assist, if we can, in economy in food. Did it ever occur to the reader how little, comparatively, we, as a people, use Indian corn? This crop is grown more generally, and with more certainty than any other, and its actual production far exceeds that of all other grains taken together. And yet a few pounds of meal per month, for dessert puddings, and occasional

other dishes, is about the extent of the consumption of corn in the great majority of the families in the Northern States. Some families use much more, but these are exceptions to the general rule. And yet, a bushel of ground corn affords quite as much healthful nourishment, as a bushel of wheat. A bushel of corn weighs 56 lbs., and a bushel of wheat 60 lbs.; but there is more waste in grinding the wheat, in the form of bran and ship stuff. Corn differs from wheat mainly, in having a little less gluten, and rather more oil and starch. For the colder half of the year the oil and starch of the corn are better adapted to the wants of the body, than the large amount of gluten in wheat. Corn contains all the elements needed in the body, and in just about the proportion they are required in Winter, while they are nearly suited for food in warm weather. A bushel of corn contains four times as much nutriment as a bushel of potatoes.

We have just examined the market prices of Wheat, Corn, and Potatoes, in different parts of the country. The examination shows, *first*, that taking the country together, the price of a bushel of corn and a bushel of potatoes is about the same, (they vary considerably in some localities, but not generally); and *second*, that a bushel of wheat sells for $2\frac{1}{2}$ times as much as bushel of corn. We therefore find that, on the average, an amount of nourishment costing \$1 in the form of corn, costs \$2 $\frac{1}{2}$ in the form of wheat, and \$4 in the form of potatoes. (Four-fifths of the weight of potatoes are water.) So, then, of three families requiring the same amount of nourishing food, what would cost one \$40 a year in the form of corn, would cost the second \$100 in the form of wheat, and the third \$160 in the form of potatoes.

Why, then, do not people consume more corn? *Answer*.—Fashion or custom has much influence, and ignorance of the value of corn, or of good modes of cooking it, does the rest. To do away with the last named difficulty, we propose to give here a considerable variety of methods for preparing corn, and corn meal, so as to make them palatable. Of the healthfulness there is no doubt, and from the methods given below, every housewife can find one or more that will suit the wants and taste of those for whom she provides.

The following directions have all been furnished expressly for this number of the *American Agriculturist*. Each of the several editors' families have been called upon for contributions, and we have each asked our friends for their best recipes. Wife's written cook book has been ransacked, and we have consulted the mothers and aunts of the neighborhood, noted for their good cooking. Here is the result. (Their derivation from so many sources, accounts for several having the same heading.)

1. Hasty Pudding, or "Mush."—We place this first as the most common and most easily made. No one ever "took sick" from eating mush and milk, or fried mush in any suitable quantity. (We knew a student well, who left the active labors of the farm to pursue his studies in an Academy. The first term he used a variety of food, and was in poor health. The next term of 11 weeks he ate only mush and milk, for breakfast, dinner, and supper, and actually grew fat on it, while he lost all headache, and though pursuing five heavy studies, he was first in his class, and went through the term strong and vigorous, without an hour of lost time, though he worked enough in the field and garden, at 8 cents an hour, to pay all his expenses). "Mush and milk" is seldom relished, because few people know how to make the mush. The whole secret is in cooking it thoroughly. Rightly made it is not "hasty pudding." A well made "mush" is one that has boiled not less than a full hour. Two hours are better.

The meal needs to be cooked; then it is both good and palatable. The rule is: Mix it very thin and boil it down, avoiding any burning or scorching, and salt it just right to suit the general taste. Prepare a good kettle full for supper, to be eaten with milk, sugar, molasses, syrup, or sweetened cream, or sweetened milk. If a good supply be left to cool, and be cut in slices and fried well in the morning, the plate of wheat bread will be in little demand. It must be fried well, not crisped, or burned, or soaked in fat. If thoroughly cooked in the kettle, it will only need to be heated through on the griddle. If not cooked well in the kettle, longer frying will be necessary.

2. Dry Mush and Milk.—Parch corn quite brown, grind it in a clean coffeemill or pound it in a mortar, and let it soak in warm milk until softened; then if too thick, add more milk and eat when cold. Or meal may be browned and eaten in the same manner.

3. Samp.—This is a good method of using corn, and a popular one when well tried—made not of the white hominy of various grades of coarseness and sold in small bags in various stages of freshness; but yellow corn fresh plucked from the fields, or well preserved, and but recently crushed (not ground) at the village mill. Boiled well, as directed above for pudding, no dish is more popular than this with children, and many grown people, particularly in Autumn and Winter. It can be used with syrup, or good milk, or sugar, or both. Like hasty pudding it is good for the second day. The various grades of "hominny" are very good articles of food but not so cheap nor always so good as samp.

4. Boiled Indian Corn (ripe).—Take common yellow corn, and boil it in a weak lye, until the hulls are broken and easily slip off. Then pour off the lye and rinse the corn thoroughly. Boil it until soft, in clear water, adding a little salt. Eat with cream and sugar, or butter and syrup, or simply with butter as a vegetable.

5. An Excellent Corn Cake.—Take 1 pint of corn meal, one quart of sour milk, 4 eggs well beaten, 2 tablespoonfuls of sugar, and soda enough to sweeten the milk. Mix all well together, and bake in pans. To have any corn cake with eggs light, the eggs must be well beaten. [For this recipe the sum of \$3 was originally paid—to a baker we suppose.]

6. Corn Bread (a).—Take 1 quart of sour milk, 1 tablespoonful of saleratus, 1 teaspoonful of salt, $1\frac{1}{2}$ cups of molasses, 3 cups of Indian meal, and 3 cups of flour. Mix well, and bake three hours in a slow oven; or, as some prefer, steam it three hours and then bake it $\frac{1}{4}$ of an hour.

7. Johnny Cake, or Corn Bread.—The following (not before published,) we formerly copied from the MS. of a good housewife in Georgia: Beat two eggs very light, mix with them, alternately, one pint of sour milk or buttermilk, and one pint of meal. Add one tablespoonful of melted butter. Dissolve one tablespoonful of soda in a little of the milk and add to the mixture. Last but not least, beat hard together and bake quick.

8. Plain Johnny Cake.—Take 1 quart Indian meal, 1 quart buttermilk, 1 teaspoonful salt, 1 teaspoonful of saleratus, 2 tablespoonfuls of butter or other shortening, 1 tablespoonful sugar, 1 or 2 beaten eggs if you have them. Mix and bake in shallow tin pans $\frac{1}{2}$ hour.

9. Florida Johnny Cake.—The following simpler recipe we picked up in Florida, and know by experience that it makes good bread: Take one tumbler of milk, one of Indian meal; beat up one egg; mix the whole together and bake well.

10. Sour Milk Corn Cake (a).—Take one quart of sour milk or buttermilk, a large teaspoonful of pearlsh, a teaspoonful of salt. Stir the milk and meal together to make a stiff batter, over night. In the morning, dissolve the pearlsh in warm water. Stir up quickly; bake in shallow pans.

11. Sour Milk Corn Cake (b).—Take

one pint of sour milk, and one of cream, two eggs, a teaspoonful of salt, a teaspoonful of saleratus, and Indian meal enough to make a thin batter. Bake one hour in shallow pans, well buttered.

12. Virginia Corn Dodgers.—Take three pints of unsifted yellow corn meal, one tablespoonful of lard; and one pint of milk. Work all well together, and bake in cakes the size of the hand, and an inch thick. We have eaten this in Dixie's land, and know it to be palatable—to a hungry man highly so.

13. Corn Bread (c).—3 pints of meal, and 1 of rye or Graham flour, 2 tablespoonfuls of sugar, and 1 teaspoonful of salt. One yeast cake softened in warm water. This should be mixed with warm water to a dough just compact enough not to run, and then be put in a deep pan, and left by the fire until it rises about one fourth higher than when mixed. Bake in a moderate oven five hours. This makes a thick crust upon the top which is to be lifted off, and the remainder eaten warm. Slice and heat in a steamer for breakfast. The crusts are to be softened in warm water, and crumbled fine for the wetting of the next loaf, and the cook will be surprised to find the second experiment far superior to the first.

14. Rye and Indian Loaves.—(First-rate—the real Yankee loaf.) Scald 2 quarts Indian meal, and when cold add 1 quart unbolted rye flour, $\frac{1}{4}$ pint molasses, 1 tablespoonful salt, and water enough to make a stiff sponge or batter. Pour into deep iron pots or kettles, and bake in a slow oven for 3 or 4 hours. If in a brick oven, leave it over night. A standard bread in New-England, eaten both hot and cold.

15. Apple Corn Bread.—Mix 1 pint of Indian meal with 1 pint of sweet milk, and add 1 quart of chopped sweet apples, and a small teaspoonful of salt. Bake in shallow pans in a quick oven. To be eaten hot.

16. Pumpkin Indian Loaf (b).—Scald 1 quart of Indian meal, and stir in 1 pint stewed pumpkin, mashed fine, or sifted; add 1 teaspoonful salt, $\frac{1}{4}$ pint molasses, mixing to a stiff batter. Bake in deep iron dishes as 14.

17. "Whitpot" (Indian).—Take 1 quart sweet milk, $\frac{1}{2}$ pint Indian meal, 2 or 3 eggs, $\frac{1}{4}$ teaspoonful salt, and 4 tablespoonfuls sugar. Boil 1 pint of the milk, stir in the meal while boiling, cook 5 minutes, and add the remainder of the milk. Beat the sugar and eggs together, and when cold, stir the whole thoroughly, and bake 1 hour in a deep dish. To be eaten either hot or cold.

18. Molasses or Mock Whitpot.—Indian meal and milk same as above, adding $\frac{1}{4}$ pint of molasses, and cooking in same manner. A very cheap and good pudding, easily made.

19. Indian Dumpling.—Scald 1 pint Indian meal, 1 small tablespoonful shortening, $\frac{1}{2}$ teaspoonful salt, $\frac{1}{4}$ teaspoonful soda or saleratus. Boil 1 hour in a bag. Serve hot, with gravy and meats.

20. Corn Muffins (a).—Take one pint of sifted meal, half a teaspoonful of salt, two tablespoonfuls of melted lard, a teaspoonful of saleratus (dissolved in two large spoonfuls of hot water). Wet the above with sour milk, as thick as for mush or hasty pudding, and bake in buttered rings on a buttered tin.

21. Corn Muffins (b).—One quart of Indian meal, a heaping spoonful of butter, one quart of milk, a salt spoon of salt, two tablespoonfuls of yeast, and one of molasses. Let it rise four or five hours. Bake in rings. It may also be baked in shallow pans. Bake for one hour.

22. Corn Griddle Cake.—Take one quart of sour milk, 3 eggs, 1 large teaspoonful of saleratus, 1 small teaspoonful of salt, and add sufficient meal, and flour to cause the cakes to turn easily on the griddle. Use a third as much flour as meal.

23. Corn Griddle Cakes with Yeast. Take three cups of Indian meal, sifted, one cup of Graham flour, two tablespoonfuls of yeast, and a

salt spoonful of salt. Wet at night with sour milk or water, as thick as pancakes, and in the morning add one teaspoonful of cooking soda or saleratus. Bake on a griddle.

24. Indian Griddle Cakes.—Take 1 pint of Indian meal, 1 cup of flour, 1 table spoonful of saleratus; 1 teaspoonful of ginger, and sour milk enough to make a stiff batter. Bake on a griddle as buckwheat cakes.

25. Corn Griddle Cakes, with Eggs.—One quart of boiling milk or water, mixed with a pint of meal. When lukewarm, add three table spoonfuls of flour, three eggs well beaten, and a teaspoonful of salt. Bake on a griddle.

26. Baked Indian Pudding (a).—Scald a quart of milk, and stir in seven table spoonfuls of sifted Indian meal, a teacupful of molasses or coarse moist sugar, a table spoonful of powdered ginger or cinnamon, and a teaspoonful of salt. Bake three or four hours. If whey is wanted in the pudding, pour in a little cold milk after all is mixed.

27. Baked Indian Pudding (b).—Three pints of milk, ten heaping table spoonfuls of meal, three gills of molasses, and a piece of butter as large as a hen's egg. Scald the meal with the milk, and stir in the butter and molasses. Bake four or five hours. Some add a little chopped suet in place of the butter.

28. Baked Indian Pudding (c).—Boil 1 pint of sweet milk; stir in 1 cup of meal while boiling; pour it into a baking dish and add $\frac{1}{4}$ cup of molasses, 2 table spoonfuls of sugar, 1 teaspoonful of ginger, $\frac{1}{2}$ teaspoonful of salt, and a little nutmeg. Then add 1 pint of sweet milk with one egg well beaten. Put into the oven while warm and bake one hour.

29. Indian Pudding (d).—Wet 3 table spoonfuls of meal with cold water. Add 2 eggs well beaten, 3 table spoonfuls of sugar, and a pinch of salt. Beat all well together. Add 1 quart of scalded sweet milk. Bake $\frac{3}{4}$ of an hour.

30. Boiled Indian Pudding (a).—Three pints of milk; ten table spoonfuls of sifted Indian meal, half a pint of molasses, and two eggs. Scald the meal with the milk, add the molasses, and a teaspoonful of salt. Put in the eggs when it is cool enough not to scald them. Stir in a table spoonful of ginger. Put into a bag and tie so that it will be about two thirds full of the pudding, in order to give room to swell. The longer it is boiled, the better. Some like a little chopped suet added.

31. Boiled Indian Pudding (b).—Stir Indian meal and warm milk together, making the mixture pretty stiff; add while stirring two or three table spoonfuls of molasses, a teaspoonful of ginger or other spice, and a little salt. Boil it in a tight covered pan. A tin dish made for the purpose is very convenient. A very thick cloth will answer. Leave plenty of room for the meal to swell. Thin slices of apple stirred into the mixture before baking are much relished by some.

32. Boiled Indian Pudding (c).—Take 1 quart of sour milk, 1 large teacupful of saleratus, $\frac{1}{2}$ teacupful of molasses, 1 cup of chopped suet, and meal enough to make it stiff. Tie in a cloth and boil two hours. The best sauce for this is sour cream sweetened with good molasses.

33. Maize Gruel for Invalids.—Stir a large table spoonful of Indian meal into a teacupful of cold water, and salt. Have ready a quart of cold water in a spider, pour in the mixture, and boil it gently twenty minutes, stirring it constantly the last five. To make it richer boil raisins in the gruel, add sugar, nutmeg, and a little butter.

Wanted!

A recipe for making a first-rate *corn bread* to be eaten *cold*, when from one to four days old.—Also: Any number of hints for getting up *good*, cheap articles of food of various kinds.

TO CURE DYSPERSIA: Take a new axe, put a white hickory handle in it, bore a hole in the top

of the handle, fill the hole with gum camphor, and seal it up. Then take the axe and cut cord wood, at fifty cents a cord, until the heat of the handle dissolves the camphor. [Dose to be taken daily.]

Ironing a Tidy—Valuable Hint.

"Tidies," or the various articles for covering sofas, chairs, tables, dishes, etc., knit in open work (crocheted) with coarse cotton thread or cord, are becoming very common, and most ladies know by experience the trouble of ironing them smoothly. The iron catches in the threads, and it is difficult to leave the meshes all in regular order. We are indebted to Mrs. Jno. E. Keeler, of Queens Co., for a capital hint on this subject, which, having been put in practice at home, is highly approved. Instead of ironing the tidy, a broad board is provided, and covered over with common bleached muslin. The washed tidy, after starching, is spread out smoothly and regularly upon this, and the edges are fastened all around with pins stuck into the board. On drying it shrinks smooth, and appears far better than when ironed. A lady, to whom we showed the above, tried it, and reports that this single item is worth to her more than a year's cost of the *American Agriculturist*.

Okra or Gumbo Soup.

It is now almost too late for this, the present season, but in answer to several inquiries from new subscribers, we repeat former directions. The pods are gathered while green, sliced, and then boiled in any meat broth for two hours, or so. The okra gives a jelly-like consistency to the broth or soup, and the flavor is very agreeable to most persons. This is the noted "gumbo soup" of the Southern States. The books say the okra pods are not good when over $1\frac{1}{2}$ to 2 inches in length. We use them at any time before the seeds become dark colored, though when they are too hard to boil to pieces, the sliced pods are removed from the soup before bringing it to the table. One of our readers at Troy, N. Y., Mrs. Mallory, is experimenting in drying the green pods, cut across into thin sections. We shall be glad to hear of the result.

For the *American Agriculturist*.

To Pack Beef and Pork.

Select for salting that part of the carcass that has the fewest large blood vessels, and not attempt to pack it until entirely free from animal heat. Removing as much of the bone as possible, pack the pieces close in the beef barrel, and place on them a weight sufficient to sink them. For one hundred pounds of beef, dissolve five quarts good *coarse* salt, and five ounces *pure* saltpetre, in two pails of soft water; boil, and skim well, and while boiling, pour it over the beef, covering it closely. If the meat is not entirely covered, make more brine as soon as possible, and pour it on hot, as at first. This is my Winter mode. The meat will be fit to boil in twenty four hours, but will not keep sweet longer than the first of April. In the Summer I often corn a little, say twenty pounds, for immediate use. I prepare dried beef in the same manner, using for this purpose the hams, and in that intended for Summer use, allow ten quarts of salt to 100 pounds. It is of no use to add salt, after the first corning. I once lost a half barrel in that way; the full quantity of salt must be put on at the same time.

In packing pork, remove the lean meat to be used for sausages; it is hard and almost worth-

less when salted. Take out the bone, leaving only the clear side pork. Cut this in strips about six inches wide. Cover the bottom of the barrel with a layer of good salt one and a half inches thick, lay in the pork edgewise, crowding it as compactly as possible, and cover with a layer of salt like the first, and so on until the whole is packed. Enough space should be left at the top of the barrel to allow four to six inches of brine above the meat. When all is packed, lay a heavy weight upon it, and pour over it a brine made of soft water and salt, as strong as possible, that is, giving all the salt the water will dissolve. The brine should always cover the pork at least four inches deep.

E. F. HASKELL.

Wringing Machines—A Confession and a Caution.

We have strongly recommended these new implements, not only as *labor-saving*, but as *clothes-saving* also. We are sure that a good wringer will more than pay for itself every year in the saving of garments, even in the smallest family. But this is not the case with many of the wringers that are now being got up and sold so abundantly through the country. And to correct our own error first, we here say that among those we consider faulty is the No. 3, (or \$5 size,) offered in our own premium list.* We consider it essential to a good wringer that there should be gearing or cog-wheels to connect the two india-rubber rollers, so that they shall both turn together. If this be not provided, there is danger that when large garments are run through, or a small garment goes through in a mass, one of the rollers may slip, and stretch, or even tear the fibers as badly as the twisting by hand wringing. Nos. 1 and 2 of the kind we offer as premiums, have the gearing, and are perfectly safe. We find on examination that the No. 3 (small size) has not the gearing or cogs, and therefore, while like all others similarly made, it may answer as a labor saver, it is not to be specially commended as a garment saver. We deem it necessary to caution our readers against buying any wringer, no matter how cheap, or how highly recommended, if it has not the cog arrangement, to make both rollers turn together, and to prevent the possibility of one of them slipping upon the cloth. While we admit that one of these defective wringers is better than none, the geared ones are far preferable, even if they cost three times as much.—One thing more. The good quality of a wringer depends much upon the thickness of the India rubber upon the rollers, and this should be looked to in buying. In the competition to get up the cheapest machine, some are made and sold with but a thin film or sheet of rubber, and their quality is correspondingly reduced. As the rubber is costly, a good wringing machine at a very low price, is out of the question. Any one can judge by examination, whether the rubber is half an inch thick, or more, so as to present a yielding, elastic surface against articles passing between the rollers. During the last month we had some sharp discussions with sundry manufacturers at the fairs and elsewhere, on the above points, and if bluffing and positive assertions were arguments, we should keep silent here; but believing the above cautions, especially the first one, are necessary, we place them before our readers.

* By an error, the larger "Hotel Wringer," or \$10 size, was called No. 3. It should be No. 1.—The No. 3, or \$5 size, is the smallest. The correction is made in the premium list in this paper, which see.



THE NEW FLAGEOLET.
(Engraved for the American Agriculturist.)

The Editor with his Young Readers.

The Young Musician.

The efforts of the young musician in the picture are amusing, but with him it is no laughing matter. His little flageolet is a greater treasure to him than the most costly piano would be in a rich man's dwelling, for possessions are, or should be prized according to the enjoyment they yield. You can see by the coarse clothing of these children and the rude furniture of the room, that they are poor. But what of that? Have they not a flageolet, with which to make real music, at least to their ears. How intently the brother of the player watches the wonderful instrument. He evidently thinks his brother a masterly performer. The whole is so natural, we love to look upon it. A friend while examining the picture said it carried him back to the days when he was first master of a flute, the gift of a relative; and he bears testimony that no single article ever gave him more pleasure. We know of no amusement more pleasing or innocent for both young and old, than the practice of music. In order to become proficient, it is necessary to commence learning young. The notes of music are not more difficult to learn than the letters of the alphabet, and when once learned, they will open the way to an unending source of pleasure. If you are so fortunate as to become possessor of an instra-

ment, imitate the example of the boy in the picture, while learning to use it. Give your whole attention to it for the time, but of course, not too long at a time. There are more important matters than music to be learned in youth, but practice the principle of doing whatever you may engage in, with your whole soul, and you may be sure of success.

A Mistake.

A station-master at one of the principal depots of the Great Western Railway in England, was noted for his self importance, and also for his cringing obsequiousness to persons of rank. One day he observed a gentleman walking up and down the platform with a cigar in his mouth. This was against the rules, and the station master requested him to stop smoking. The gentleman took no notice of it, and continued puffing. This irritated the station master, and in a most prepotent tone he ordered the cigar to be thrown away. Still no notice was taken. A third time he gave the order, still more angrily, and then, not being obeyed, he stepped up to the offender, and snatching the cigar from his mouth threw it away. The gentleman coolly continued his walk without speaking or noticing the angry man. Presently, a coach and four belonging to a neighboring nobleman drove up, and the smoker entering the carriage, rode away. The station master in great trepidation inquired his name,

and was in the utmost consternation when told it was Viscount Palmerston, Premier (First Lord of the Treasury) of England. He immediately called a carriage, and drove off post haste to the house where the Premier was stopping, and earnestly requested to see his Lordship. The Premier soon appeared, and the station master commenced a most abject apology for having "so grossly insulted his Lordship. Had he known who his Lordship was, he would not have treated his Lordship so for the world." The Premier heard him in silence, then looking upon him sternly said: "Sir, I did respect you because I thought you were doing your duty like a Briton; but now I see you are nothing but an unmitigated snob." It was a well merited rebuke, not easily forgotten. Remember boys and girls that he who does his duty, however unpleasant it may be, will always be respected.

Children's Flower Gardens.

It is too late, now, to sow flower seeds for this year's enjoyment. But it is a suitable time to prepare the ground for next year's use. And indeed it is a good time, now, to set out many hardy herbaceous plants and shrubs which will survive the Winter, and shoot up next Spring when the snow is off.

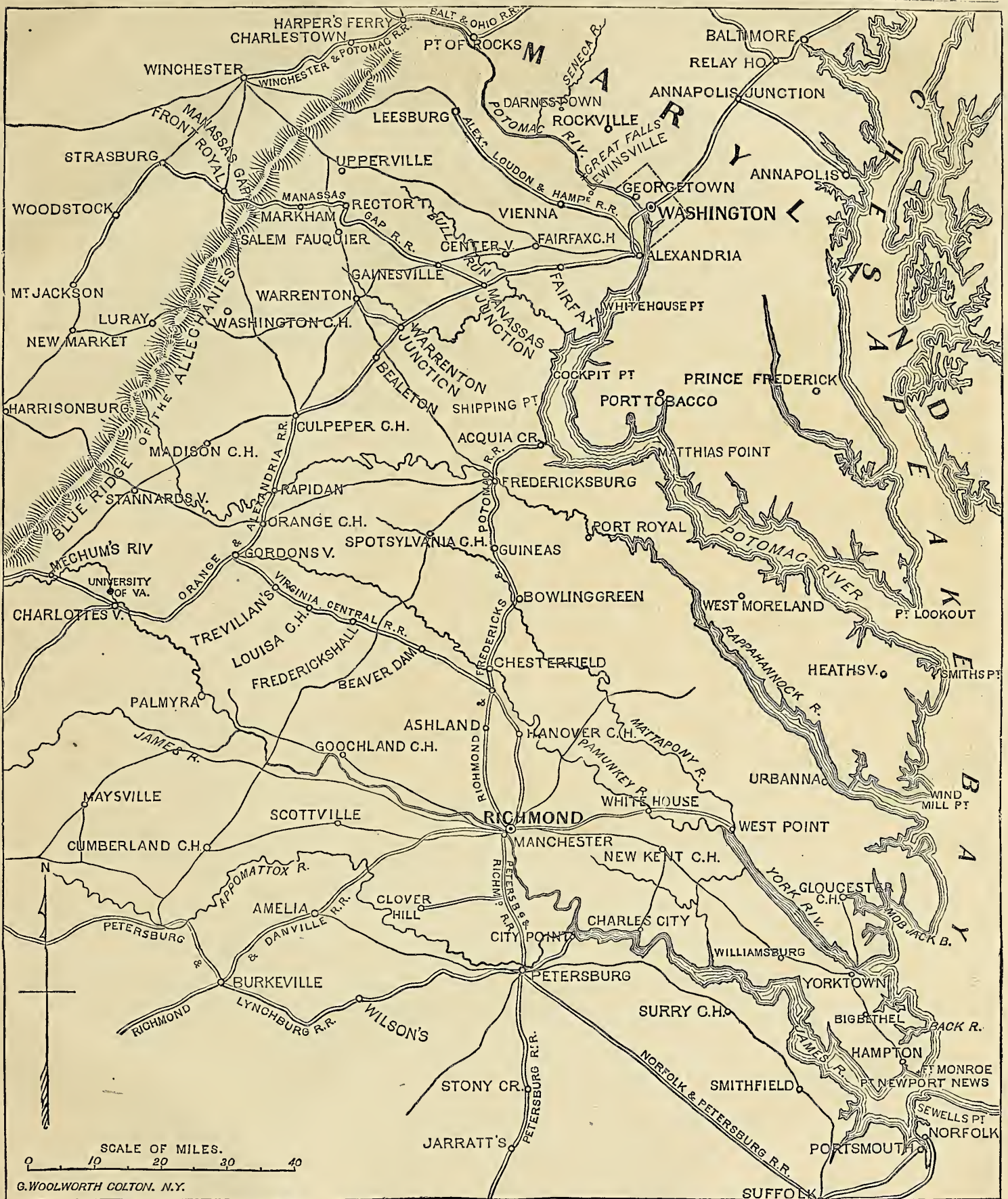
In the towns and villages which we visited the past Summer, we noticed only a few children's gardens. Here and there was a bed in father's garden, set off for the children, and it always delighted us to look at them. Some were surrounded with clean clam-shells for a border, others with broken china, or with father's surplus geological specimens. Violets, poppies, pinks, and morning-glories were favorite flowers. In one, we noticed a "Sensitive Plant," which, the family told us, every visitor was taken to admire; it was such a curious thing to see the leaves of a plant close up and fall at the touch of a human hand! In the center of one bed, a broken mantel-ornament was set up for a classic vase or fountain; at one side of the parterre, a china doll was fastened on a square block, for a statue of Venus, and on the other, a Sambo doll was enthroned as a bronze figure of Agricola!

In a neighbor's garden we found in the children's quarter, a well of water in full blast. It was dug twelve inches deep toward the center of the earth. An oyster keg was put down to strengthen the sides against caving in, and to hold the water. The well-sweep was a willow rod, supported on a crooked bow of apple-tree wood. The bucket was a wooden tea-cup, of miniature pattern, and hung by a cotton string. A living fountain kept the well supplied with cool, fresh water, just as long as one of the children brought it from papa's pump. The plants in this garden were thoroughly irrigated, every time the children had a play-spell thereabouts. The plants were not of a kind to endure indiscriminate watering, and probably they died aquatics!

But such were not the only kinds of gardens we saw. Now and then, we met with a few in which there was an attempt at more order. And we thought a word or two of counsel from us to such young horticulturists might not come amiss. Here, then, follow a few hints:

Flowering plants may be classified as annuals, biennials and perennials. *Annuals* grow from seed to their full perfection in a single year: they blossom and form seeds and die, the same season. Among these, we have the poppy, sweet-pea, marigold, etc. Annuals are very desirable in a garden. They furnish plants of every variety of color and size, some blooming early and others late. Most of them are of very easy culture, such as any child can manage. Wait in Spring until the ground is dry and warm; then sow the seeds in finely pulverized soil, and cover very lightly. In a week or too they will be up. After this, the only care needed is to thin out the plants and keep down all weeds. Here are the names of half a dozen of the best annuals: Phlox Drummondii, Asters, Balsams, Portulaca, German Stocks, Marigolds. There are dozens more, nearly as good. (You will see many in our future Seed List for next Winter's distribution.)

Biennials are those which require two years to



MAP OF EASTERN VIRGINIA.

In response to frequent requests from our country readers, we present the above map, and also two others on pages 348 and 349. These maps are valuable now, as they embrace the main points of interest in the present war. The above map of Virginia was originally prepared for the N. Y. Tribune. We have inserted some new localities, made famous by recent events. The other two large maps have been engraved expressly for the *American Agriculturist*.

perfect themselves. They come up the first year from seed, and make a considerable growth, and then rest, without flowering. The second year, they start again into growth, produce blossoms and

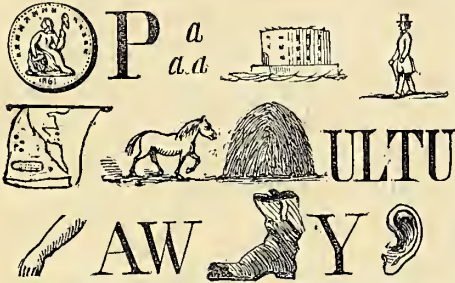
seeds, and then decay. There are many good flowers in this class, such as Canterbury Bell, blue and white, Evening Primrose, Foxglove, Fumitory, Honesty, etc. These require no more care than annuals.

Perennials are such as live and bloom from year to year, and die only from old age, or exhaustion of the soil. Among these, we have the Phloxes, Spireas, Pinks, Lilies, Roses, etc. These require to

be divided and reset in new soil once in five or six years. If they are not re-planted, they become large and overgrown, and do not thrive and bloom nearly as well as when divided and put into fresh earth. The list of Perennials is too long to give here.

Now, all we have further to say at present to our young gardeners is—get a fine large piece of ground laid off for you, this Fall. Have it spaded up and manured, and put into tolerable shape. Then when Spring opens, it will be in good condition for you to work in. Have your list of seeds and plants all made out during the Winter, and in Spring be ready to make for yourself a little Paradise of a garden.

New Problems.



No. 25.—*Illustrated Rebus.* The answer is easily found, and it will bear repeating to your neighbors.

No. 26.—*Curious Inscription.*—A stone, with the following letters engraved upon it, is said to have been discovered in an old English village. It has puzzled many. Try and make out the inscription.

F O R C A T T
L E T O R U b t H E
I R T A I l S A G
A I N S t

Answers to Problems in October No.

No. 23.—*Illustrated Rebus.*—See page 314. Answer: Fine words are not always the marks of a kind heart.

No. 24.—*Arithmetical Problem.*—See page 314. Answer: 7,691.

The following have sent in correct answers:

F. Porter Dalrymple, 23; "Jim, Ellie, Al, and Emmie," "J. M.," Swanton, Vt., Jessie Bell, 22; Robert M. Taggart, 23; Benjamin Doe, 24. (A fine algebraic solution.) Edwin Berrian, 21, 22; I. Oliver, 24; I. T. McLain, 24.

NEW PREMIUM LIST, For 1862---Vol. XXI.

Or Pay to Voluntary Agents who will attend to collecting names of new and old subscribers to the Agriculturist, and forwarding them to the Office.

Experience has proved that it is a benefit to the subscribers themselves, as well as to the Publisher, to have an Agent at every Post Office, to attend to collecting the names and subscriptions of old subscribers, and to present the advantages of the paper to those not yet acquainted with it. But to employ and commission a Special Agent in every neighborhood throughout the country, is out of the question. We therefore offer certain good articles, the value proportioned to the number of names sent in, and leave them open to every person disposed to attend to the business, in the locality where he may be known to be a reliable man. The pay offered for a year to come is very large, but perhaps none too much so for the times. By giving the articles offered we can make the pay much larger than if in money, because we have facilities for getting these articles at a low rate. Besides, the advertising thus given to the manufacturers, induces them to bear a considerable portion of the expense on the articles we need for premiums.

In selecting articles for premiums, we have aimed to get such as are useful, and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made, or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected

by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bill, needed by canvassers, will be freely furnished.

Only one premium can be paid on the same subscriber.

We make no distinction between new and old subscribers, but it is expected that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

The offer of extra numbers to new subscribers received now, makes it practicable to begin collecting names at once. Indeed, these numbers are an extra inducement.

Every person collecting names for premiums, should send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent—one of them marked at the top "For Premiums," and also with the name of the sender.

The premiums are offered for subscribers for Volume XXI (1862), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any club is made up—if duplicate lists are sent.

No person who has commenced sending in names at 80c, and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, out-spoken, and reliable, the special friend, advocate, and promoter of the farmer's interests, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in the next Volume, than in any preceding one. Onward, upward, is our motto.

Table of Premiums for 1862.

Names of Premium Articles.

Names of Premium Articles.	Price of Premiums.	Names at \$1 each.	Names at 80 cts. each.
2—Clothes Wringer, No. 2.....	\$7 50	18	37
3—Clothes Wringer, No. 1.....	\$10 00	28	45
4—Sewing Machine, (Wheeler & Wilson).....	\$35 00	28	130
5—Sewing Machine, (Wheeler & Wilson).....	\$35 00	63	98
6—Aneroïd Barometer.....	\$7 50	19	44
7—Hydropult.....	\$12 00	30	48
8—Five Octave Melodeon (best).....	\$75 00	125	237
9—1½ Octave Melodeon (best).....	\$60 00	104	182
10—Four Octave Melodeon (best).....	\$45 00	90	130
11—New Cyclopaedia, 16 volumes.....	\$35 00	96	140
12—Worcester's Unabridged Dictionary.....	\$7 50	17	40
13—Five back Volumes Agriculturist, p.p.....	\$5 00	16	30
14—Four do do do do.....	\$4 48	13	26
15—Three do do do do.....	\$3 36	10	20
16—Two do do do do.....	\$2 24	15	10
17—One do do do do.....	\$1 12	10	10
18—Winsor & Newton's Paints.....	\$2 50	15	20
19—Osborn & Hodgkinson's Paints.....	\$2 50	15	20
20—Hand Corn Sheller (best).....	\$6 50	21	40
21—Straw and Hay Cutter (best).....	\$8 00	24	48
22—Best Subsoil Plow (2 horse).....	\$8 00	24	48
23—Various Books—See terms below.....			

DESCRIPTION OF THE PREMIUMS.

Premiums. 2, 3.—Wringing Machine.

We place this first, for it is nearly new, and one of the most useful articles for every family. We had one of the first made, and have used it over a year with the highest satisfaction. It completely does away with the hard straining work required to wring out garments by hand. It does not twist and break the fibres of the clothes, but simply presses them between two elastic India-rubber rollers, which are moved by a crank, and whether large or small pieces, they come out drier than when wrung by hand. The saving to garments would soon pay the cost of the implement, to say nothing of the saving of woman's labor. The machine is set upon the side of any tub; the garments drop out into a basket. A child can quickly wring out a tub full of clothes—They are of three sizes.—No. 2, costing \$7 50, is just the thing for common family use. This we present to any one sending us 18 subscribers for the *Agriculturist*, at \$1 each, (or 37 at the lowest club price of 80 cents).—No. 3, costing \$5, is thrown out for reasons given on page 313. No. 2 is preferable.—No. 1, costing \$10, is adapted to larger families and Hotels. We will present it for 23 subscribers at \$1 each, (or 48 at 80 cts. each).—We are glad to be able to present this implement as a premium on such liberal terms. One or more clubs for a No. 2 might be made up in almost every neighborhood.

Premium No. 4.—Sewing Machine.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person sending them to *Wheeler & Wilson's best \$15 Sewing Machine*, (including *Henner*), new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by nearly four years' use in our own family, in connection with other machines. We want no better.—The prolongation of life, the saving of health and strength to our females, and the better physical vigor thus secured to the next generation, render the Sewing Machine one of the most desirable additions to the household.—The machines will be selected

new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using go with each machine.

Premium No. 5.—Sewing Machine.

60 Subscribers at \$1 each, (or 98 at 80 cents each,) will entitle the person procuring them to *Wilcox & Gibbs' \$35 Sewing Machines*, including a set of *Henners*. This is the best machine of its kind, (sewing with one thread,) and has several points superior to other machines. It is neat, well made, simple in its operation; and having tested one in our own family for more than a year, we think highly of it, and can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Henners*, because those used with this machine are very simple and effective, and should go with every machine sent out.) The machines given as premiums, will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium No. 6.—Barometer.

19 Subscribers at \$1 each, (or 44 at 80 cents each,) will entitle the person getting up the club to one of *Kendall's Aneroïd Barometers*, (Price \$7 50.) This is a good, portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. We have had one in use for nearly two years, and find it not only accurate, but an admirable weather prophet. Scarcely a rain, storm or gale of wind has occurred, that has not been heralded by our barometer. Each instrument is packed in a neat leather case, 6 inches square, and 4 inches deep, and this, surrounded by cotton, is enclosed in a wooden box, ready to be carried anywhere by express or otherwise.

Premium No. 7.—Hydropult.

30 Subscribers at \$1 each, (or 48 at 80 cts. each,) will entitle the person making up the club to the *Hydropult*, (Price \$12,) a very useful hand implement for carrying instantly to any desired point, to throw water from a pail, tub, cistern, or other receptacle, for extinguishing fires, watering plants, washing carriages, etc., etc. A stream can be thrown up to the third story windows. It is supplied with jet pipe and rose or sprinkler; is made of brass, and is durable. It weighs only 8 lbs., and can be packed in small compass to go by express or otherwise.

Premium No. 8.—Melodeon.

125 Subscribers at \$1 each, (or 337 at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly, by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, or other school, and an instrument thus secured for a church or school-room. This was done in several instances the past year.

Premium No. 9.—Melodeon.

104 Subscribers at \$1 each, (or 182 at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4½ octaves.) See No. 8.

Premium No. 10.—Melodeon.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$45 Melodeons* (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium No. 11.—New Cyclopaedia.

66 Subscribers at \$1 each, (or 140 at 80 cents each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of sixteen large volumes of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining four will be furnished as fast as issued. The original design of this work was 15 volumes, but it is found that the immense mass of matter will require 16 large volumes. The work is sold at \$5 per volume, or \$48 for the set. To no better purpose could any one devote the coming Fall and Winter evenings than to raising the club of subscribers required to secure this most valuable work for himself and family.

Premium No. 12.—Best Dictionary.

18 Subscribers at \$1 each, (or 10 at 80 cts. each,) will entitle the person getting up the club to a copy of the *large Pictorial Unabridged Edition of Worcester's Dictionary*, (Price \$7 50.) This now stands confessedly the most valuable Standard Dictionary published. It weighs nearly 10 lbs.; is 12 inches long, 10 inches wide, nearly 4 inches thick, and contains 1854 pages of 3 columns each, giving the spelling and pronunciation, with full explanations, of every word in the English Language, and as a source of general information on all subjects, stands next to the Cyclopaedia. The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country. The *United States Express Company* have kindly agreed to deliver the book at very moderate rates to any part of the country where their lines extend. It can also go by mail to any place within 3,000 miles for \$1 00 prepaid postage. Except to remote points, the expense will be much less by Express. (Persons living off from express lines, can usually have it delivered to some person on the line, and send for it at their convenience.)

Premiums Nos. 13 to 17--Back Volumes.

These premiums (13 to 17,) will enable any one to secure the previous excellent volumes of the *American Agriculturist*, as far back as Volume XVI. We have stereotype plates and can print any number desired of the English Volumes 16, 17, 18, 19, and 20, and of the German Volumes 18, 19, and 20. These will be sent in clean, new numbers, each volume by itself, with index complete, and be forwarded *post-paid*. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired. They will be presented as in the table above, viz: For 16 Subscribers at \$1 each, (or 30 at 80 cents each,) we will present **five volumes**.—For 13 Subscribers at \$1 each, or 26 at 80 cents each, **four volumes**.—For 10 Subscribers at \$1 each, (or 20 at 80 cents each,) **three volumes**.—For 15 Subscribers at 80 cents each, **two volumes**.—For 10 Subscribers at 80 cents each, **one volume**.—Let every one selecting these premiums be careful to name just *which* back volumes are desired.

Premium No. 18--Paints.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*, consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 81 cents for extra postage above the 6 cents per ounce which we pay.)

Premium No. 19--Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium No. 20--Corn Sheller.

21 Subscribers at \$1 each, (or 40 at 80 cents each,) will entitle the person getting up the club to one of the best **\$6½ Hand Corn Shellers**. This is a convenient, useful implement, very frequently called for. We give the best implement to be obtained for the price.

Premium No. 21--Hay Cutter.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to one of the best **\$8 Straw and Hay Cutters**. This is a useful implement, needed wherever horses and cows are kept.

Premium No. 22--Subsoil Plow.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to the best **\$8 Subsoil Plow** (two-horse), a very desirable implement.

Premium No. 23--Good Books.

Here is an opportunity to get a good library at little expense. Any person getting up a club of 16 or more names may choose any desired Books from the list advertised on page 351, to the amount of 12½ cents for each name forwarded at 80 cents, (or 33½ cents for each name sent at \$1,) and the books will be delivered to the recipient free of all expense for postage. Persons making up a club for any of the preceding premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE.
New-York, Friday Morning, Oct. 18, 1861.

*The materials for this review are furnished specially for the *Agriculturist* by a reliable man of long experience, who, throughout the year, spends the whole of each day in the markets, watching the transactions and collecting information, and we flatter ourselves that this report is one of the most correct anywhere published.

CURRENT WHOLESALE PRICES.

	Sept. 19.	Oct. 18.
FLOUR--Super to Extra	41 75 @ 54 50	\$5 30 @ 50 8
Superfine Western	4 70 @ 5 45	5 30 @ 5 40
Extra Western	5 10 @ 6 75	5 50 @ 7 00
Fancy to Extra Genesee	5 35 @ 6 75	5 85 @ 7 00
Super to Extra Southern	5 20 @ 6 50	6 00 @ 8 75
RYE FLOUR--Fine and Super.	2 25 @ 3 50	2 75 @ 4 00
CORN MEAL	2 75 @ 3 50	2 75 @ 3 24
WHEAT--Canada White	1 20 @ 1 35	1 38 @ 1 43
Western White	1 30 @ 1 35	1 38 @ 1 45
Southern White	1 20 @ 1 31	1 40 @ 1 48
All kinds of Red	93 @ 1 30	1 15 @ 1 36
CORN--Yellow	55 @ 56	62 @ 64
White	56 @ 58	61 @ 66
Mixed	50 @ 56	57 @ 61
OATS--Western	33 @ 35½	36 @ 39
State	34 @ 35	38 @ 39
RYE	68 @ 70	70 @ 78
BARLEY	50 @ 75	45 @ 75
HAY, in bales, per 100 lbs.	50 @ 75	45 @ 75
COTTON--Middlings, per lb.	21½ @ 22	21½ @ 22
RICE, per 100 lbs.	6 25 @ 7 00	7 00 @ 7 50
HOPS, crop of 1861, per lb.	18 @ 24	15 @ 22
FEATHERS, Live Geese, p. lb.	30 @ 35	32 @ 35
SEED--Clover, per lb.	8½ @ 8½	8 @ 9
Timothy, per bushel	2 80 @ 3 15	2 75 @ 3 00
SEED--Brown, per lb.	6½ @ 8	7½ @ 9½
MOLASSES--New-Orleans, p. gal.	50 @ 55	50 @ 55
COFFEE, Rio, per lb.	13½ @ 15½	14½ @ 17
TORRACO--Kentucky, &c, p. lb.	6 @ 15	8 @ 15
Seed Leaf, per lb.	5 @ 20	5 @ 20
WOOL--Domestic fleece, p. lb.	28 @ 40	38 @ 42
Domestic, pulled, per lb.	27½ @ 37½	32 @ 32
TALLOW, per lb.	9 @ 9½	9 @ 9
OIL CAKE, per tun	30 00 @ 38 00	31 00 @ 38 00
PORK--New Mess, per bbl.	14 50 @ 15	14 75 @ 15 50
Prime, new, per bbl.	9 75 @ 10 00	9 75 @ 10 00
BEER--Repacked mess	9 75 @ 11 50	9 25 @ 11 00

LARD, in bbls, per lb	8 @ 9¼	8¼ @ 9¼
BUTTER--Western, per lb.	8 @ 11	8 @ 11
State, per lb.	8¼ @ 11	11 @ 15
CHEESE	5 @ 7	5 @ 7
EGGS--Fresh, per dozen	12 @ 12½	11 @ 16
POULTRY--Fowls, per lb.	4 @ 10	7 @ 8
Chickens, per pair	10 @ 15	10 @ 12
Geese, per pair	1 25 @ 1 50	1 25 @ 1 50
Ducks, per pair	38 @ 50	44 @ 56
Turkeys, per lb.	9 @ 10	11 @ 12
Woodcock, per pair	50 @ 62	30 @ 40
Partridges, per pair	50 @ 62	50 @ 56
Dried Apples, per lb.	4¼ @ 5	5 @ 6½
Quinces, per lb.	10 @ 15	10 @ 12
Dried Peaches, bottled, per lb	10 @ 12	11 @ 15
Dried Raspberries, per lb.	11 @ 12	12 @ 13
POTATOES--Mercers, p. bbl.	1 50 @ 2 00	1 50 @ 2 00
Peachblows, per bbl.	1 50 @ 1 75	1 25 @ 1 50
Sweet Delaware, per bbl.	3 00 @ 3 50	2 00 @ 2 50
ONIONS--Red, per bbl.	1 00 @ 1 25	1 00 @ 1 25
White, per bbl.	1 25 @ 1 50	1 25 @ 1 50
TULIPS--Kutabaga, per bbl.	75 @ 1 00	75 @ 1 00
SQUASH--Marrow, per bbl.	62 @ 1 00	62 @ 1 00
TOMATOES, per bushel	25 @ 37	25 @ 62
APPLES--Common, per bbl.	1 50 @ 2 00	1 25 @ 1 50
Apples--good, per bbl.	2 00 @ 3 00	2 00 @ 2 50
GRAPES--Isabella, per lb.	6 @ 10	6 @ 10
CRANBERRIES, per bbl.	3 00 @ 6 00	3 00 @ 6 00
CHESTNUTS, per bushel	2 00 @ 2 25	2 00 @ 2 25
HICKORY NUTS--per bushel.	1 00 @ 1 25	1 00 @ 1 25

The following table shows at a glance the aggregate amount of business transacted in the New-York Markets since the date of our last report, and also a comparison with the previous month.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 days <i>this</i> month	539,000	3,617,000	3,812,000	71,100	158,500	427,000
27 days <i>last</i> month	479,000	3,401,000	3,605,000	45,925	65,925	398,969
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 days <i>this</i> month	616,000	6,289,000	4,708,000	115,950	136,000	336,000
27 days <i>last</i> month	533,812	5,473,125	4,439,250	47,137	63,830	363,000

It will be seen that the above actual figures are for 25 days only--one day being deducted for the National Fast, and one for the earlier date of this month's report. If for comparison we estimate for two days more, the figures will stand thus:

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
This month	532,120	3,606,360	4,116,960	80,028	171,501	461,916
Last month	479,000	3,401,000	3,605,000	45,925	65,925	398,969
Increase	103,120	505,360	511,960	34,303	105,576	62,947
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
This month	605,280	6,792,120	5,081,640	125,223	116,880	336,000
Last month	533,812	5,473,125	4,439,250	47,137	63,830	363,000
Increase	131,468	1,318,995	642,390	78,086	53,050	13,000

Exports of Breadstuffs from New-York, Jan. 1, to Oct. 16.

	1860.	1861.
Wheat Flour, bbls.	1,340,951	2,121,408
Rye Flour, bbls.	6,999	9,345
Corn Meal, bbls.	75,063	90,200
Wheat, bushels	8,109,018	18,642,887
Corn, bushels	2,170,894	9,280,595
Rye, bushels	450	501,795
Barley, bushels	8,250	1,000
Oats, bushels	102,508	147,734
Peas, bushels	—	103,151

The above tables are both interesting and important. We see that, large as were the transactions reported a month ago, they have been of still greater magnitude during the month ending to-day. The increase in receipts and sales have been from 12 to 25 per cent., the average daily receipts and sales of Flour and Wheat being just about 20 per cent. greater than for the preceding month. These sales, it will be understood, have been mainly for export to foreign markets. Nor is this all. A glance at the table of prices above, shows that the prices of shipping brands of Flour have gone up 60c. per barrel, on the average; Sound Wheat is 7c. to 12c. per bushel higher; and Corn has advanced 4c. to 8c. per bushel. Elsewhere (pages 327-8) we have discoursed at length upon the Breadstuff market, and we need only add here that the enormous, unprecedented sales and exports of our soil products are exerting an immense influence upon the commercial condition and political welfare of the country. Ordinarily, the loss of a cotton crop to the commerce of the country would be disastrous. The effect of such a loss is this year counterbalanced by the fact that we alone, of all the nations of the earth, have an abundant surplus of food, which is all needed elsewhere. In fact, we absolutely control the Breadstuff markets of the world. Our ability to meet the demand upon us from abroad, is only limited by the capacity of our canals and railroads to bring forward produce to the sea-board. So greatly has the demand exceeded the receipts, that large quantities of Wheat and Flour have been sold in advance, and most of the Flour, Wheat and Corn thus sold is not reported on arrival, but goes directly to ships or storehouses; so that our reported receipts are *really* below the actual receipts. Again, in ordinary years speculators buy and hold stocks, and sometimes the same lots of Flour and Grain are bought and sold many times over on speculation, so that the monthly aggregate of sales does not show the actual amount of produce *in transitu*. This year the wants of exporters are so urgent that stocks are seldom detained to be banded about by speculators, and the sales show pretty nearly the actual amount going into consumption or to foreign countries. Since Jan. 1, the known receipts in this City aggregate 3,300,000 barrels of Wheat Flour; 18,000,000 bushels of Wheat; 17,000,000 bushels of Corn; 400,000 bushels of

Rye; 1,000,000 bushels Barley; and 2,600,000 bushels of Oats. Reckoning the Flour as Wheat, the total grain receipts at this port for 9½ months just past, aggregate **55,500,000** bushels, against 39,000,000 bushels for same period last year. Of this, the Flour and Wheat receipts *this year* aggregate **34,500,000** bushels of Wheat. The total export from this port since January 1, of Flour, Wheat, Corn, Rye, Barley and Oats, equal **40,000,000** bushels, against 16,000,000 to same date last year--an **excess** this year of **24,000,000** bushels, or an **increase of 150 per cent!**—P. S.—Just as we are going to press we receive from Europe, confirmation of what we have above, and elsewhere, stated in regard to the deficiency of the Wheat crop in France. The money market of Paris is greatly disturbed by the increasing prospect of the large loss of coin, to be sent abroad for food; while the higher price of Flour already experienced gives rise to fears of a recurrence of "bread riots." The economy inaugurated in the United States has so far diminished the importation of silks, that in Lyons, the great silk mart of France, and even of Europe, there is already a great amount of destitution.... **Wool** is just now attracting more attention than even Cotton, in our own market. A month ago we advised our readers that a large, well-paid, well-clothed army would create a ready demand and high rates for all the wool in the country. The subsequent course of transactions has more than confirmed our predictions, which, as usual, were based upon well-considered facts. Common and medium grades, or "Domestic Fleece," have advanced within one month from 28c. @ 40c. per lb. to 38c. @ 52c.—fully one-third—and there is a large unsupplied demand. Sheep have increased in price, from the increased value of the wool to be pulled from their pelts. The woolen factories throughout the country are running night and day, and large orders have been going abroad, even under the new tariff. The extra fine qualities of wool, not being so well adapted for army clothes and blankets, have not risen as fast as the lower grades.... The activity in the Breadstuff and Wool Markets, and the large distribution of money,—gold and government issues—have favorably affected all branches of trade connected with agriculture. The table of current prices, above show the changes in prices at a glance.

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been very largely supplied during the past month. Receipts were: Sept. 24th, 5,102; Oct. 1st, 4,774; Oct. 8th, 5,902—the largest this year. Oct. 15th, 9,591—an average of 5,234 per week for the past month, and an increase of 800 per week over the previous month. Prices fell ¼c. the first week; stationary at the next market, fell ½c. the next week, where they still remain, viz: 8½c. @ 8½c. per lb., estimated dressed weight, for prime cattle, 7c. @ 8c. for medium to good; and 5c. @ 6c. per lb. for lower grades. Average of all sales 7c., or ¼c. less than for the same period last year. Between outchers and graziers, the cattle were all bought up at each market.

VEAL CALVES.—Receipts are moderate, and prices are gradually advancing. For the past month the average has been 60c. per week, all of which were readily sold at 4½c. @ 5½c. per lb., live weight, the prices remaining nearly uniform since our last report.

SHEEP AND LAMBS.—Selling briskly at an advance of fully ½c. per lb., live weight. Receipts have averaged 13,610 per week, or 450 per week less than last month. There is a demand for store ewes, but prices are higher than graziers are willing to pay. Good fat Sheep are worth 4½c. @ 4½c. per lb., live weight,—a few extras have sold for 4½c. @ 5c., or \$6 @ \$8 per head. Common stock sells at 3½c. @ 3½c. per lb. Lambs are worth 4c. @ 5c. One cause of the advance in Sheep is the higher price of wool.

LIVE HOGS are coming in much slower than this time last month, the receipts being but 8,994 per week, or 1,200 less than the weekly average one year ago, and prices are now 2c. per lb. lower than then, or about as last month. The stock has all been sold, but it is evident that prices must continue to rule low. Live hogs are now worth 4½c. @ 4½c. for corn fed, and 3½c. @ 3½c. for still fed hogs.

The Weather, since our last report, has been remarkably mild, with just rain enough for Fall grain and grass. There has been no frost in this vicinity as yet, which is an uncommon occurrence.—OUR DAILY WEATHER NOTES, condensed, read: *September 20*, clear and fine—21, cloudy, light rain at night—22, 23, clear, cool—24 to 26, fine, warm, sunny weather—27, cloudy A. M., moderate rain P. M. and at night, with high winds—the rain was very heavy in Western New-York, carrying away numerous bridges on the Erie railroad—28 to 30, and *October 1* to 6, delightful, warm autumn weather—6 and 7, cloudy, with showers P. M. and at night—8, rainy day—9, clear, cool—10, 11, cloudy, with rainy nights—12, clear, cool—13, cool, with light showers—14 to 16—fine, clear days—17, cloudy, barometer falling—18, very heavy rain at daybreak.

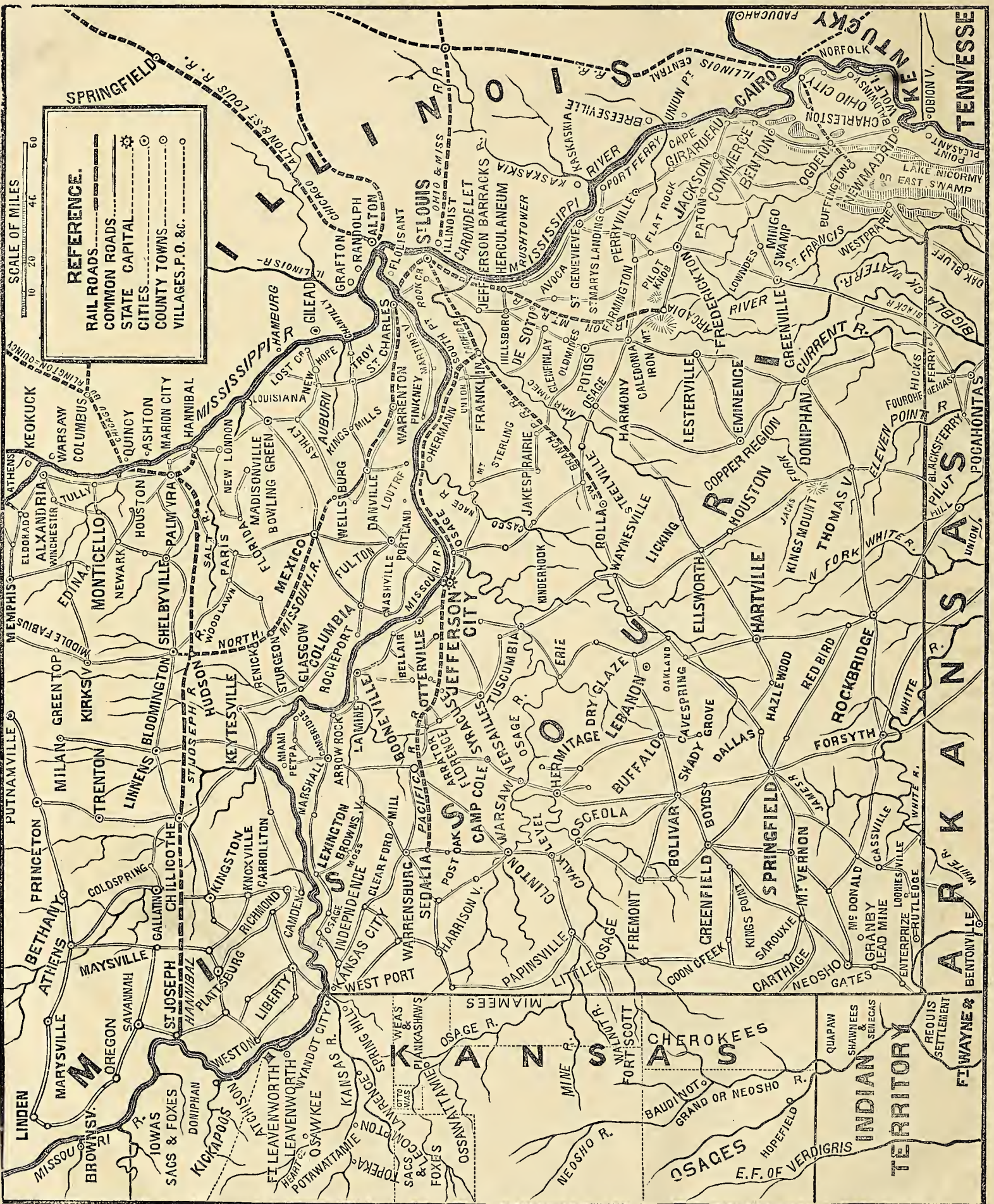
The rain from Sept. 15 to Oct. 15, measured 3.32 inches—scarcely differing from the previous month.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Ther-mometer (Fahrenheit.)—r indicates rain—s, snow.]

SEPTEMBER.				
1.....55°	7.....56	13.....60	19.....61	25.....53
2.....57	8.....62	14.....60	20.....64	26.....54
3.....64r	9.....60	15.....64	21.....64	27.....57r
4.....67	10.....57	16.....66	22.....54r	28.....60
5.....57	11.....66	17.....63	23.....50	29.....50
6.....62	12.....62	18.....59r	24.....54	30.....49
Average.....59°				

OCTOBER.				
1.....52°	4.....56	7.....70r	10.....52r	13.....52
2.....54	5.....67	8.....62r	11.....61r	14.....47
3.....63	6.....67	9.....49	12.....61r	15.....53

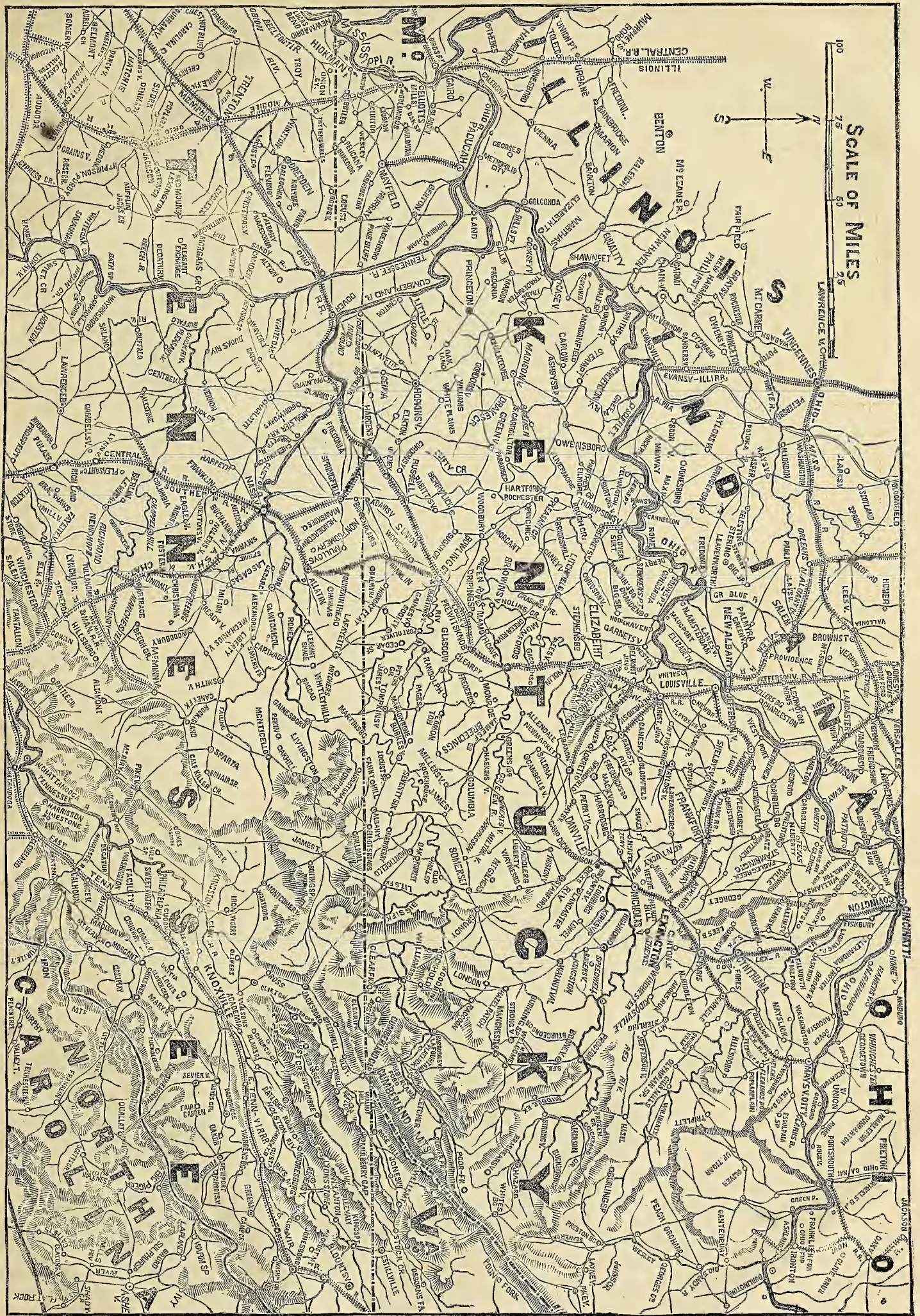


MAP OF THE STATE OF MISSOURI.

Engraved expressly for the American Agriculturist.—See page 323.

MAP OF KENTUCKY AND PART OF TENNESSEE.

Engraved expressly for the American Agriculturist.



Exhibition Tables at the Office of the American Agriculturist.

The following articles, not before noticed, have been placed on our tables for exhibition, during the past month.

VEGETABLES, ETC.,—Potatoes. Peach Blows, large and fine, shown by Michael Foley, North Islip, N. Y.... Potato of curious growth through a knot-hole by G. E. Hance, Essex Co., N. J.... Chinese potatoes, (Dioscorea) by G. W. Usher, Richmond Co., N. Y.... Sweet potatoes, large and fine, raised by L. Leonard, exhibited by Joshua A. Perry, Queens Co., N. Y.; also excellent specimens from the proprietor's grounds at Flushing.... **Tomatoes.** Cuban, and Greenwich Apple Tomatoes, a new yellow variety, very fine, by W. S. Carpenter, N. Y.... Cuban by G. M. Usher, Richmond Co., N. Y.... Perfected, or Fejee Island, beautiful specimens by O. Judd, Flushing, and H. P. Sanford, Westchester Co., N. Y.... **Miscellaneous:** White Cranberry Beans, by Geo. A. Elston, Chester Co., Pa.... Gherkins and Okra, by O. Judd, Flushing, N. Y.... White Egg Plant, large and finely shaped, said to surpass the purple variety in flavor, by C. E. Davis, Litchfield Co., Conn.... Mammoth Squashes, weighing respectively 138 lbs. and 113 lbs., by J. A. Valentine of Farmers' Club at Glen Cove, L. I.... Yellow Peppers, by S. C. Lotridge, N. Y.... Kentucky Sweet Potato Squash, by J. W. Jones, Chatham 4 Corners, N. Y.... Turnips, Mangel Wurzel, Artichokes, and curled Endive, by O. Judd, Flushing, N. Y.... Fancy Gourds, by T. F. Stewart Flushing, N. Y.... Apple Pie Melon, and Cheese Pumpkins, very large, by S. B. Conover, Washington Market, N. Y.... Honolulu Squash, a splendid specimen, weighing 37 lbs., by G. M. Usher, Richmond Co.; N. Y.... Yard beans, pods 3 feet long, by O. Judd, Flushing, N. Y.... Spinach, very fine growth, by G. M. Usher, Richmond Co., N. Y.... Blue Stem Wheat, superior sample, by J. S. Underhill, Suffolk Co., N. Y.... King Philip Corn, by Rev. W. W. Howard, Queens Co., N. Y.... Egyptian Wheat, by M. P. Walker, Suffolk Co., N. Y.... Red and White Rice Corn, very pretty, by J. Brush, Putnam Co., N. Y.... Gall nuts from the oak, singular growth, John J. Walker, Westchester Co., N. Y.... "Apple of Paradise," a species of lemon from Italy, by Jacob Marcus, N. Y.... Chestnuts fine samples, by E. S. Lamoreux, Somerset Co., N. J., and Mrs. Fanshaw, Yorkville, N. Y.

FRUITS.—Grapes. Superb specimens of the Delaware, by H. B. Mace, Orange Co., N. Y.... Delaware and Concord, fine clusters, by J. C. Remson, Orange Co., N. J.... A small Delaware vine, 3½ feet high, containing 22 fine clusters of fruit, by Wm. Perry & Son, Bridgeport, Conn.... Clinton, Catawba, and Isabella, by S. B. Conover, Washington Market N. Y.... Concord, by W. S. Carpenter and A. P. Cummings, N. Y.... Isabella, fine specimen, John Cole, Richmond Co., N. Y.... Catawba and Isabella, by Dr. R. T. Underhill, Westchester County, N. Y.... Catawba, beautiful cluster, by J. H. Gibson, Monmouth Co., N. J.... A variety of white grapes, fine bunches of good flavor, Isaac Merritt, Dutchess Co., N. Y.... Isabella, of extraordinary size, by H. Fordham, Suffolk Co., N. Y.... Catawba, by W. B. Westcott, N. Y.... Diana, five fine clusters, from a vine, planted in April, O. Judd, Flushing N. Y.... Isabella Grapes, the finest specimens shown here this season, and remarkable at any time. Three clusters on a cane seven inches in length, weighed 3 lbs. 8 oz. The berries were very large and of luscious sweetness, by A. E. Beard, Litchfield Co., Conn. **Pears.** 80 named varieties by Ellwanger & Barry, Rochester, N. Y.... 22 named varieties; also, 8 Beurre Clairgeaus, weighing 6½ lbs. on a branch 9 inches long, a year-old graft, by W. S. Carpenter, N. Y.... Bartlett, 6 from a 1-year-old graft, by P. L. Bogert, Queens Co., N. Y.... Unnamed variety, J. W. Evarts, Queens Co., N. Y.... Seven specimens, by C. Williams, Essex Co., N. J.... Pound pears, by H. and J. Storms, N. Y.... Vicar of Winkfield and native seedlings, by A. M. Halstead, Westchester Co., N. Y.... Pound Pears, two specimens, weighing 1 pound 4 ounces and 1 pound 3 ounces, by Mr. Eddy, Kings Co., N. Y.... **Apples:** 35 named varieties, by W. S. Carpenter, N. Y.... 15 named varieties, by Ellwanger & Barry, Rochester, N. Y.... Large apple grown in a small necked bottle, curious, by Mr. Thorp, Flushing N. Y.... Gloria Mundi, fine specimens, by Mr. Wilden, Morrisania N. Y.... Fall Pippin, very fine, by George Searing, Queens Co., N. Y.... Apple Quince of very large size, weighing 18 oz. by Hiram Gilbert, Essex Co., N. Y....

FLOWERS, ETC.,—Prize Dahlias, a magnificent collection to some of which a premium was awarded by the Brooklyn Horticultural Society, exhibited by C. S. Pell, Supt. N. Y. Orphan Asylum. Tubers of these varieties are for sale by Mr. Pell, at \$2 per doz., for the benefit of the Asylum.... Double Zinnias, by John H. Haviland, N. Y. and W. S. Carpenter, N. Y.... Cut flowers, a fine collection of Asters in variety, Verbenas, Phloxes, Marigolds, Zinnias, Cockscorn, etc., by O. Judd, Flushing, N. Y.... Cut blooms of new Crimson Scabious, by E. S. Olmstead Westchester Co., N. Y., who will please accept our thanks for seed of the Scabious, and of the Japan Pink.... Castor Oil Plant, by O. Judd, Flushing N. Y.... Tube.

roses and sweet scented Geraniums, very fine, by A. P. Cummings, N. Y.... Cut flowers, a beautiful bouquet by G. M. Usher, Richmond Co., N. Y.... Dahlias and Double Marygolds, very fine, by W. S. Carpenter, N. Y.... Dahlias, by J. E. Keeler Queens Co., N. Y.

Money by Express.

N. B.—Hereafter, until further notice, sums of \$5 and upward, whether in gold, silver, bills, or stamps, can be sent to us through any office of the *United States Express Company* (and this company only), at our expense.

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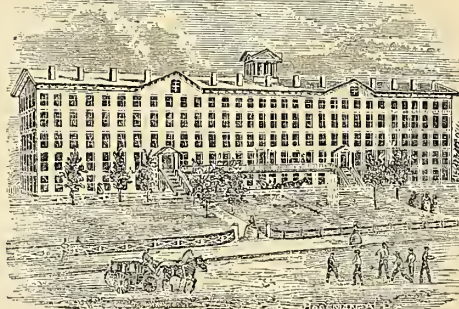
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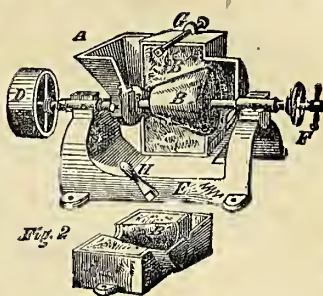
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Contents for November, 1861.

Animals—Principles Regulating Breeding.....	330
Apples—Keeping in Germany—American Fruit Cellar.....	337
Apples—Preserving in Sawdust.....	337
Beef and Pork—Directions for Packing.....	343
Bees—Apiary in November.....	323
Birds—The Wren and Bees.....	331
Boy's and Girls' Department—The Young Musician; A Mistake; Children's Flower Gardens; Maps of the seat of War—Problems.....	5 Illustrations. 344-49
Breadstuffs—Home Trade in.....	328
Breadstuffs—Prices of—All Interested.....	327
CALENDAR OF OPERATIONS FOR THE MONTH.....	322
Cartage of Manures—Saving.....	330
Chess—Instructive Experiment in Reproduction.....	330
Cistern—Cement—Cheap Method of Building.....	334
Cisterns in Barns.....	334
Clover—Large Growth.....	329
Draining—Sundry Suggestions.....	Illustrated. 329
Exhibition Tables at American Agriculturist Office.....	350
Farm Scenes—Autumn.....	Illustration by Darley. 336
Farm Work in November.....	322
Flower Garden and Lawn in November.....	322
Food—Cheap for War Times—Thirty three Methods of Cooking Indian Corn.....	341-43
Garden—Children's Corner Important.....	339
Garden—Kitchen and Fruit in November.....	322
Garden—Kitchen and Fruit—Preparing for Winter.....	338
Gleaners in France—Rights.....	336
Grain Measurer—Convenient.....	336
Grapes in Cities and Villages—How to Raise.....	338
Green and Hot-Houses in November.....	322
Green Houses for the People—No. 2. A Illustrations.....	340
Highway—Clear up the.....	335
Horses' Feet—Corns on.....	331
Household Embellishments—Home-made.....	327
Humburgs—Grand Banquet; Recipe Peddlers; Silver- ing Powder.....	Illustrated. 332
Hyacinths in Glasses—An Improvement.....	341
Ice House—Cheap Way to Make.....	332
Insects—The Army Worm and Draining.....	331
Inventions—Agricultural Needed.....	336
Ivy (Ampelopsis) in England.....	339
"Land Poor".....	337
Leaf Crops Valuable.....	330
Lectures—County and Village this Winter.....	335
Libraries for Farmers—How to Form.....	335
Lilies—Japan.....	Illustrated. 341
Map of Kentucky.....	Illustrated. 349
Map of Missouri.....	Illustrated. 348
Map of Eastern Virginia.....	345
Market Review, Weather Notes, etc.....	347
November—Suggestion—Visiting Parents.....	Illustrated. 321
Okra or Gumbo Soup.....	343
Orchard and Nursery in November.....	322
Orchard Lands—Tilling.....	339
Painting Buildings.....	333
Pastures—Evils of Late Feeding.....	330
Potato—Curious Growth of.....	Illustrated. 332
Potatoes—Planting in Autumn.....	339
Poultry—A Crowing Match.....	331
Poultry House—Good and Cheap.....	331
Premium List—New, for 1862.....	346
Prospects of Farmers.....	327
Roots—Harvest the.....	339
Roots—Suggestions on Storing for Winter.....	334
Sorghum Sugar—Improvement in Manufacture of.....	329
Sq. 343—Keeping in Winter.....	339
T. 17—Toning—Valuable Hint.....	343
Tim Painter on Painting Buildings.....	333
Tools for Boys.....	333
Trees—A Hint or Two for Lovers of.....	337
Trees—Feeding.....	338
Trees—Wounds in.....	338
Umbrellas—Safe for.....	2 Illustrations. 341
Wagons—Poor; Striking Figures.....	329
Wringing Machines—A Confession and Caution.....	343

INDEX TO "BASKET" ITEMS.

Agriculturist—Letter on.....	326
Agriculturist—Influence.....	327
Apple in Bottle.....	324
Apples—Counterfeiting.....	324
Barley—Winter.....	326
Asparagus Beds.....	323
Beans—Drying Limas.....	326
Bcaus—Limas Perennial.....	326
Bees—Feeding.....	324
Berries in October.....	323
Blackberries—Planting.....	323
Butter—Premium.....	326
Books on Barns, etc.....	326
Canadensis, P. O.....	323
Chrysanthemums.....	324
Cloth—Non-Inflammable.....	327
Cotton—Hardy.....	327
Cows—Caked Bag in.....	324
Crops in Iowa Injured.....	324
Cypress Vine Seeds.....	326
Economy—Not True.....	326
Engraving—Fine.....	323
Fair—Queens Co.....	323
Fair—Westchester Co.....	323
Fair—World's in 1862.....	323
Farm's Club—Glen Cove.....	323
Fence Posts—Setting.....	325
Fig Trees—Raising.....	326
Flowers—Drying in Sand.....	325
Grain in Chicago.....	324
Grape Cutting.....	324
Grape Vines—Protecting.....	323
Grape Vine—Mechanic's.....	323
Grapes—Fine Delaware.....	325
Grapes—Keeping.....	324
Grapes—New Seedlings.....	325
Grapes—Raising Seedlings.....	325
Hawthorns—Flowering.....	324
Horse Power—Unit of.....	325
Horse Shoes for Snow.....	326
Illinois—Good for.....	323
Insects and Onions.....	323
Insects—Weevil in Grain.....	325
Ivy Poisoning—Cure for.....	326
Laurel—Transplanting.....	324
Lily and Tuberose.....	323
Magazine—Times Record.....	326
Manure—Bone.....	325
Manure for Fruit Trees.....	324
Manure from Tanneries.....	324
Manure—Salt Mud.....	325
Manure—Spontaneous.....	326
Maps—Note on.....	323
Milk—Increasing Flow of.....	324
Muck for Bedding.....	326
Oak—Sample of.....	324
Pear—English Speckled.....	326
Pear—Rostiezer.....	324
Pears—More Wanted.....	325
Plow—Knighting the.....	326
Plow—Fowler's Steam.....	323
Potatoes—Sweet—Keep- ing.....	326
Premium to Ourselves.....	325
Pump Wanted.....	325
Raisins—How Prepared.....	325
Rats—Drumming out.....	325
Rats—How to Kill.....	324
Rheumatism—Remedy.....	326
Rose—The Best Noisetto.....	324
Seedlings—Interesting.....	324
Sheep Ticks—Oil for.....	325
Strawberries—Inquiry.....	323
Spades and Shovels.....	325
Swine—Prolific.....	325
Swine—Water for.....	324
Tanning with hair on.....	324
Tree—Largest Apple.....	324
Trees—Near Stumps.....	324
Turnips—Keeping Fresh.....	324
Vaults—Cleaning out.....	325
Water on Cement.....	325
Weather—Remarkable.....	323
Wheat—Large Yield.....	324
Wine—Frauds in.....	326
Wines—Tokay.....	326

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We never mean to "advance backward," and having learned how to get up such a paper as the present Number, we shall keep doing so—and better. Those who think that the *Agriculturist* for all the next year will be worth its low subscription price, will confer a double favor, if they will say as much to their neighbors. The kind words of those who have read the paper in the past, are worth far more than anything the Publisher can say. But we propose even better terms.

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Of this November number we shall print 4000 Extra Copies, and present one of them to each new subscriber for 1862, whose name is received early this month, or before the extra copies are exhausted. Four hundred of them will be saved specially for new names from the Pacific Coast and other distant points, which must necessarily come in at a later date. All new subscribers received since Sept. 1st, are entered on our mail books, and will receive their paper regularly. This extra edition is exclusively for new subscribers coming in after November 1st. As we received nearly 4000 subscribers during the early part of November last year, those wanting the extra copies, should apply soon.

FURTHER.

All new subscribers received this month, will, of course, have the December Number also, in addition to all of next volume, for a single year's subscription price.

NO PARTIALITY.

The above offers, and all others—the seeds, etc., etc.—are for all new subscribers, however received—whether singly, or in clubs, or from Post Masters or voluntary canvassers, or from Agricultural Societies.

The Premiums are Going.—A large number of persons have already raised Premium Clubs for 1862, and have received their pay. Money is becoming abundant, and many subscribe now who could not do so last year. Thus far we have entered more new subscribers in October, than up to the same date in 1860. But there is abundant room for others to secure such articles as they desire. See list on page 346.

A Hundred Eyes would enable a person to make very comprehensive observations, provided they could be used independently, and see objects at different distances. A good agricultural journal enables one to examine the farms, crops, modes of culture, experiences, and results of hundreds of others, in different parts of the world. In this way, for a single dollar, more information can be gained on these topics, than by hundreds of dollars expended in visiting different locations.

Screened Wheat is Worth Most.—A Subscriber writes: "I like the *Agriculturist* for what it does not publish, almost as much as for what it prints. Screened Wheat is worth most. Many papers are full of

chaff, and weed seeds—nonsense and errors. I and my neighbors esteem the *Agriculturist* for its reliability."

One bushel of Grain per Acre, added to the ordinary product, would pay many times the subscription price of the *American Agriculturist*. The suggestions given in a single number have in many instances increased the yield of a subscriber's crops from five to ten bushels per acre. When asking a neighbor to subscribe, please call his attention to this.

What Others Think and Say.

Perhaps it will interest the readers of the *Agriculturist* to see a few of the opinions held and expressed by others concerning their own journal. The following unsolicited editorial notices are taken at random from many hundreds that have appeared during the present year alone:

The American Baptist, in a long notice and review says: "Neither war nor hard times can kill such a journal as the *American Agriculturist*. Luxuries must be dispensed with, but mankind can not live without food, and the cultivator will not, if he be wise, think of managing his affairs without the aid of an agricultural journal. This would be saving a dollar in his pocket, and losing ten to fifty in his field, farm yard, and garden. The *Agriculturist* has a greater circulation than any other agricultural or horticultural periodical in the world, and while edited as hitherto, it will long continue to enjoy that pre-eminence.... The numerous engravings are well executed, and the typography is in the best style...."

The Somerset Farmer says: "The *American Agriculturist* is the best agricultural magazine in the world...."

The St. Louis Missouri Republican says: "....The *American Agriculturist* is the most valuable agricultural journal of the country. Though published in New-York, every number contains articles of great utility for every section of the country. Its pictorial illustrations are excellent. It is difficult to see how it can be afforded at the low price of one dollar a year, except upon the supposition that its circulation is extensive. The proprietor presents extraordinary inducements to subscribers, and, we are glad to say, makes good his promises." *The Berrian County Freeman*, of Michigan, copies and endorses the above.

The Atlantic Journal says: "One number of the *American Agriculturist* is worth the subscription price for the whole year. It is a real 'live' paper, and one which we heartily recommend to our readers...."

The Ohio Statesman says: "...The *American Agriculturist*, published by Orange Judd, New-York, at \$1 a year, is one of the neatest and best agricultural journals we are acquainted with.... The number just at hand is full of interesting and useful matter...."

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS, for the LAWN or YARD; care of DOMESTIC ANIMALS, &c., &c., and to HOUSEHOLD LABORS. It has also an interesting and instructive department for CHILDREN and YOUTH.

A full CALENDAR OF OPERATIONS every month. THREE to FOUR HUNDRED, or more, illustrative ENGRAVINGS appear in each volume.

Over SIX HUNDRED PLAIN, PRACTICAL, instructive articles, and many useful items, are given every year.

The Editors and Contributors are all PRACTICAL WORKING MEN.

The teachings of the *AGRICULTURIST* are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, for the whole AMERICAN CONTINENT.

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ORANGE JUDD, 41 Park-Row, New York City.

FROM THE STEAM PRESSES OF JOHN A. GRAY.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.

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Contents, Terms, &c., on pp. 378-355.

Entered according to act of Congress in the year 1861, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. **P. N. E.**—Every Journal is invited freely to copy any desirable articles, if each article or illustration copied, be duly accredited to the *American Agriculturist*

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.



December.

"Through all the brute creation, none as sheep
To lordly man such ample tribute pay.
For him their udders yield nectareous streams;
For him their downy vestures they resign;
For him they spread the feast."—DYER'S FLEECE.

There must come an end to all beautiful things, and this year of abundant harvests and manifold blessings, closes with this month. We see around us, on every hand, the evidence that Nature is closing another volume of her records and settling the accounts. The forests are bare and desolate, the fields are sere and dead, if not already wrapt in their winding sheet. The shortened days, the slanting rays of the noon-day sun, the frosty nights, the long cold storms, proclaim the advent of Winter. "He giveth snow like wool; he scattereth the hoar frost like ashes. He casteth forth his ice like morsels; who can stand before His cold?"

The fleecy snow filling the air, and the need of woolen garments felt by every one, suggest our theme. Whether the English estimate of the poet be too high or not, there can be no doubt that SHEEP ought to hold a very prominent place in our husbandry. In England, owing to the larger development of the manufacturing interest, there is a steadier price for

wool, and a much higher and more uniform price for mutton, and in consequence a much greater encouragement to sheep husbandry. It is always a paying business, and perhaps justifies the prominence given it by the poet. But here, the low price of mutton and the unsteady price of wool are great drawbacks to this kind of farming. In England, too, there is such a thing as law, and lawless dogs with an appetite for mutton are summarily disposed of. Here the mass of our voters who do not own sheep are passionately fond of dogs, and if a law be enacted against the canine race, the race of worthless cur owners feel that war has been declared against them. The curs, biped and quadruped, generally carry the day, and the dog law is either repealed, or becomes a dead letter so that nobody dares to enforce it. Sheep become a very uncertain article of property. Of necessity, they are pastured through the Summer, and are generally turned into the remote lots, often upon the mountains where the owner can not see them daily. Dogs get the taste of mutton, and the flock is soon decimated or destroyed. This operates so strongly against the keeping of sheep, especially the more valuable kinds, that the business is given up altogether in many parts of the country. Whole districts once covered with flocks of fine woolled sheep, are now stripped of this kind of stock. In others it has become incidental to other branches of husbandry, and only a few mutton sheep are kept for the home table and for the village butcher.—But this state of things can not last forever. Americans have too much good sense to allow curs and cur owners to rule the nation perpetually.

With an increased home manufacture and a steadier price for wool, and suitable protection against dogs, this might become one of the most flourishing branches of our husbandry. It has some advantages over the dairy. The production of butter and cheese involves a large amount of labor both in the house and in the field. There is the daily milking and driving of the cows back and forth to pasture, the daily making of curds and churning of butter, and the trips to market two or three times a week, during the Summer. But with sheep, the whole crop of grass and hay is turned into a marketable article with very little labor. There is the annual washing and shearing for the wool, and the mutton and lambs may generally be sold alive in the field.

We confess to a weakness for sheep, aside from our convictions of the economy of keeping them as a part of the farm stock. We love to see them, to feed them, to handle them, and to see the unbounded delight of the children, as they hail the young lambs in the field, and in the fold. They are convenient pets and good educators of the little folks in humane and kindly sentiments, to say nothing of their influence in making farm life attractive. There is no more

beautiful sight upon the farm than a luxuriant hill pasture in June, dotted with sheep and lambs just before the annual shearing.

They flourish in all our northern country, and are, perhaps, as little liable to disease as any of our domestic animals. Their wool forms the most suitable article for Winter clothing, and ought to enter far more largely into consumption, than it does. We have large faith in woolen drawers, stockings, and undershirts, as a protection against the sudden changes of our weather. Coughs, colds, consumption, and rheumatism, often arise from the want of these undergarments. Cotton answers a good purpose in mild weather, but it is not the material for Winter. This is much better known among laborers in the manufactories, and in the cities, than upon the farm. Yet the farmer at his wood chopping, teaming, and foddering, is quite as much exposed to the weather, and needs the protection of thick woolen under-clothes.

Sheep are generally admitted to keep grazing land in better condition, than any other stock. They are efficient helpers in keeping down brush, and will eradicate many kinds of weeds. Their appetite craves a greater variety of food than the horse or the cow, and even rivals that of the goat and the ass. If the brush is once cut, and the sheep have access to the tender shoots as they come up, they will keep them down. Grass will spring up around the brush stumps, and the feed will be greatly increased. In a bush pasture the land should have all the sheep it can carry, until the brush is fairly subdued. This should be the rule also in pastures troubled with weeds. It is quite possible to bring poor pastures into a highly productive state, with no other agency than sheep. The land must, of course, have some grass upon it to begin with, and judgment must be used in the cropping. It is of great advantage that their droppings are so small, and that they are so evenly distributed over the surface. Where the object is to improve the grass, it should not be fed close. It will be better for the sheep as well as for the land, to have an occasional change of pasture. Well fed and thriving sheep, at all events, will gradually improve a pasture and bring it into great luxuriance without the aid of tillage.

Too much can hardly be said in favor of mutton as an article of food. It is wholesome and palatable at all seasons, and at the farm is more conveniently prepared for the table, than any other meat except poultry. It does not take a very large family to economically dispose of a lamb, or fat wether, in the fresh or corned state.

The cost of producing mutton, even in the limited pastures of the older States, we believe is less than that of any other meat, excepting poultry. Sheep will thrive in pastures where large animals would grow poor, and they can be kept at a distance from the house where it would be inconvenient to keep cows or oxen.

Calendar of Operations for Dec., 1861.

[A glance over a table like the following will generally call to mind some piece of work that would otherwise be forgotten or neglected. The remarks are more especially adapted to places between 33° to 45°; but will be equally applicable farther North and South, by allowing for latitude. The calendar will, of course, be much more full during the season of active field and garden work.]

Explanations.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm*, or *ll*), gives particular emphasis to the period indicated.—Two letters placed together, as *fm*, or *ml*, signify that the work may be done in either, or in both periods indicated; thus work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The comparative leisure of Winter affords valuable time for learning the science of Agriculture. Mere book knowledge will never make a good farmer, neither will mere working on a farm: knowledge and practice must go together to secure the best results. The study of agricultural works will not only add to the stock of practical ideas, but will develop and cultivate the man himself. We urge that all the animals upon the farm be well cared for during this inclement season, but are yet more solicitous that the cultivator does not neglect himself. Mind-power is superior to horse-power, or steam-power on the farm or elsewhere.

Accounts.—Settle with all debtors and creditors. At least let accounts be made up, and a balance agreed upon, if debts can not be canceled.

Buildings.—Save feed and fuel by excluding wind and storms, but provide for ample ventilation for animals.

Cattle.—Keep under shelter, feed liberally, with frequent change of diet, and allow free access to water, give plenty of bedding, and keep their skins in good condition by frequent use of the card and brush. Read article page 363.

Cellars.—Keep out frost and rats; sort over vegetables that may be decaying.

Cranberry Plots.—Keep flooded if practicable.

Fencing Materials.—Collect from woods, and from swamps when they freeze, and prepare rails and posts.

Fodder Racks or Boxes.—Provide them for all stock.

Grain.—Complete threshing, *ff*, and market as soon as prices are satisfactory.

Hogs.—Complete fattening and kill as early as possible. Give warm food to store hogs, and allow plenty of litter.

Horses.—Keep in warm, light, well ventilated stables. Feed well. Blanket when needed. Keep sharp shod. Give sufficient exercise; use card and brush often.

Ice House.—The first formed ice is usually best.

Lumber and Timber.—Draw from the forest to the mill while sleighing is good.

Manures.—Keep all the factories employed. Save liquid manures with absorbents of muck, leaves, or straw. Keep under cover, and compost with muck or waste litter. Much of next year's profit will depend upon the care and skill now bestowed upon laying in a good stock of good manure.

Meadows.—Apply top-dressings of fine compost where needed. Read "Blanketing Meadows," on page 360. Where practicable it is often beneficial to irrigate meadows by overflowing from adjacent streams.

Poultry.—Keep in warm quarters, feed liberally, supply with fresh meat, lime, and gravel, and warm food.

Sheep.—Keep separate from other stock. Shelter from storms, in well ventilated sheds. Give roots cut fine with hay, and a little oats or corn. Salt regularly, and allow plenty of water. See page 363.

Tools.—Keep all under cover; repair such as need it.

Turnips.—Harvest, *ff*, any remaining. Examine those stored; keep well ventilated and protected from frost.

Winter Grain.—Keep surface drains open, and allow no stock to graze or trample the fields.

Wood.—Cut and pile ready to draw when snow falls. Select dying and unthrifty trees, and thin out undergrowth.

Orchard and Nursery.

There is little to be attended to in this department, if our suggestion a last month have been carried out, though there are a few things of prime importance.

Clons for grafting next Spring should be cut this month, if not already provided. Better secure an excess for all possible wants of yourself and friends. It costs very little time, trouble, or expense to transform trees bearing poor fruit into producers of the best. Choose good healthy trees of desired varieties, and cut off twigs of well ripened new wood. Fortunately the favorable Autumn weather has matured the new growth well, (and this by the way, augurs well for plenty of fruit next year.) Tie up each

variety by itself in small bundles, and attach a good label. Bury the bundles in sand or dry earth, in the cellar, or in any dry spot where there can be no standing water.

If any pruning must be done before July (the best season), let it be done now. Not only is there now more time for the work, but the cut surfaces will harden over before the starting of sap in Spring.

Remember that fruit trees repay expense for manure quite as well as any other crop, and look out now, and through the Winter, for a good supply. The lime, hair and leather scrapings from tanneries, waste wool from the clothiers, spent tan, leached ashes, oyster shells, muck, canal sediments, etc., are all worth carting home, and some of them may well be purchased.

In snowy countries, care will be needed to guard against mice which often gnaw off the bark of small trees near the ground. Tramping down each fresh fall of snow about the trees is a good preventive. Shake the newly fallen snow from evergreen and other trees to prevent its weight from splitting down the branches.

Prepare stakes, labels and tallies for the busy Spring.

Look over fruit in the cellar as directed under "Farm."

Kitchen and Fruit Garden.

Little can be done in northern latitudes except protecting plants left in the ground, and preparing for next season's operations. Bulbs, blackberries, currants, etc., can be planted, and draining, trenching, and subsoiling be done until frost prevents.

Asparagus.—Cover all unprotected beds with manure from the horse stable, or other litter.

Bean and Hop Poles, Stakes, Brush, etc.—Collect and store for next season, and during winter provide an additional supply from swamps or forests.

Cabbages, Cauliflowers and Celery.—Harvest, *ff*, any remaining in the ground. Examine what is stored, and attend to any found decaying.

Cold Frames.—As the cold increases, cover with mats or straw, and place boards above these to shed rain. Ventilate by day when the weather is mild.

Cuttings.—Secure from best varieties of grapes, currants, gooseberries, etc. Cut when not frozen, and preserve in dry earth.

Manure.—Collect a full supply; keep under cover.

Raspberry Canes.—Protect, *ff*, all tender sorts not covered. Bend down and cover with an inch or two of earth.

Spinach.—Cover thinly with straw or other litter.

Strawberries.—Examine those already protected, and if too thickly covered, remove a part. An inch of leaves or straw is sufficient.

Vegetables and Roots for Seed.—Select the best, and store in boxes of dry earth.

Flower Garden and Lawn.

A little attention to the evergreens and shrubbery to see that the branches are not broken down by the accumulated snow, is nearly all that is required in the pleasure ground. Such upright growers as the yew and juniper are best protected from the snow by winding spirally with strong twine.

If any bulbs are still out of ground, put them in at once. They will show a partial bloom in Spring, but not as fine as when planted earlier.

Where there is no snow or frost, any needed changes, or improvements by way of laying out, grading, and even setting deciduous trees and shrubs, may properly be carried on now. A plan can at least be made out for any alterations or for laying out new grounds, even if it can not be worked out before Spring.

The frames and flower pits should be kept closed most of the time. They may be opened at mid-day, during mild weather, for an airing, but if it continues cold, add more covering of straw, or mats. Set traps or put in poison for mice.

Green and Hot-Houses.

We are glad to observe the increasing desire manifested to contrive some plan for keeping the Summer favorites through the Winter. The attention given this subject in the late numbers of the *Agriculturist*, is contributing in no small degree to this end, as is shown by the numerous letters we are receiving. The idea of heated apartments for flowering plants, has heretofore suggested costly structures and heavy expenses in keeping them up, but the chapters alluded to, go to show that with very little expense a small conservatory or bay-window, may be attached to the living room, capable of containing an interesting collection of plants. The heat is mainly the waste from other apartments, thus involving very little extra expenditure. But even if a separate building be

erected for this special purpose, the cost need be but a few hundred dollars which is amply repaid in the pleasure and healthfulness of caring for the plants, and in the returns received for early flowers and vegetables that may be started from these houses earlier in Spring.

Considerable care will now be required to maintain a proper temperature in the houses. In attempting to exclude the outside cold atmosphere, there is danger of too great heat and dryness. The temperature may be safely raised to a much higher point where there are abundant evaporating pans of water than where there is little moisture. In extreme cold weather with high winds, it may require much vigilance to keep up sufficient warmth. See that every crack and crevice is calked or listed, and have shutters or mats in readiness to cover the glass. A simple curtain suspended from the inside over the side windows, and let down over horizontal wires overhead, will do much towards checking cold blasts.

The syringe, or Hydropult, or hand force pump, will be found very useful in assisting to maintain a humid atmosphere, so essential for the healthy growth of most plants. A pump or Hydropult should always be on hand in case of fire. The open tank or cistern should also be kept well filled, both to serve as an evaporator, and to supply water in case of fire. Plants in pots require frequent sprinklings, the artificial heat tending to dry the soil rapidly.

Watch for the first appearance of mildew, and dust the affected plants with sulphur, or syringe with sulphur water. Insects will also come in for a share of attention.

To secure a good bushy growth, the plants must not be too crowded, either in the pots, or in position upon the shelves. Give them plenty of room and pinch to a desired form. Stimulate lagging plants with weak manure water.

The grape vines have probably been tied to the wires, and in the earliest houses are even bursting into growth, and require much moisture with an even temperature. Prune vines in the cold graperies, unless done last month.

Apiary in December.

Prepared by M. Quinby—by request.

It is now time to decide in what way the bees are to be wintered. Such as are to be housed, may be taken in during the first days of real Winter. Unless the room is warm independently of the bees, much less than 50 stocks will not be enough to keep up the required temperature. More than one hundred are quite sure to make it too warm part of the time. Without a warm room, or bees enough to render it so, the open air is the safest, especially for good colonies. The hives should be protected from prevailing winds; and to prevent the bees from smothering, there should be air passages at both top and bottom of the hives, and so arranged that they will not choke with dead bees, frost, ice, etc., and at the same time the mice should be kept out. A hole in the side of the hive, a few inches from the bottom is not often choked up. When the opening is large enough to admit mice, cover with wire cloth, except a passage way for the bees.

Second or third rate stocks, where there is no warm dark room or cellar, should be put in an out-door protector, as was recommended in the *American Agriculturist*, Vol. XIX, page 355 (Dec. No.). When the hive can not be removed from the stand, surround it on three sides with hay or straw, open the holes in the top, and fill the covers of honey boxes with fine hay, and set it over. The sun should be allowed to shine on the front side occasionally, to melt the frost that will accumulate inside.

2500 bbls. (78,750 gallons) Home Grown Sweetening in La Salle County, Ill.

—The Prairie Farmer estimates that 2,500 barrels of Sorghum or Chinese Sugar Cane syrup has been made in La Salle County this year, or enough to supply every family in the County with sweets for twelve months to come, saving the farmers \$35,000 in this one item. The yield is 200 to 250 gallons per acre. Farmers are advised to save all the well ripened seed from the sweetest cane. (The above estimate is at nearly 50 cents per gallon, which is perhaps too high. At 40 cents a gallon the syrup would be worth about \$30,000.—It may be interesting to state, that probably nearly all, if not all the above crop was grown from the produce of the seed distributed free from the office of the *American Agriculturist* in 1857. In that year, before the sorghum plant was generally known, we obtained nearly 1600 lbs. of seed, and scattered it freely all over the country, to every subscriber desiring it. We secured many thousands of new subscribers in this way, and some slow contemporaries cried out "humbug." What have they now to say concerning the millions of gallons of good sweetening made the present year, to supply the place of that which we don't get from Louisiana? We are satisfied with the result, and hope others are. We still keep on distributing seeds of various kinds. See list for next year.)

Seeds for Free Distribution to all Subscribers for 1862 (Vol. 21).

Every subscriber to the *Agriculturist* for 1862, is invited to select four or five parcels of seeds from the list below.

These seeds are all valuable. Of the 90 kinds offered, many are new varieties, but we include several common useful sorts for the convenience of those living remote from access to good seeds.

Most of them are annuals (reproducing seed the first season), and in all cases there will be enough to yield a good supply for future use. Our aim is, to furnish the germs of future abundance in each locality where these seeds go.

Many of these seeds have been grown by ourselves, the present year; the others are obtained of the best growers in this country and Europe. The distribution will begin early in February, and a description of them will be given in our next number. We give the list now, that subscribers may send for the seeds when renewing their subscriptions.

Mode of Distribution.—The seeds may be called for at the office after January 25, or be sent for by mail at any time now, to be forwarded when ready. The postage is only 1 cent per ounce under 1500 miles; and 2 cents per ounce when over 1500 miles.

Those sending for seeds to be forwarded by mail, will please carefully observe the following

DIRECTIONS.—(1.) Select from the list below, any four or five parcels desired, and write plainly on a slip of paper the numbers (only) of the kinds of seeds wanted. (These numbers are used on our seed drawers, seed bags, etc.)

(2.) Enclose the slip in a prepared envelope—directed in full to your own address, as here shown, and put upon it postage stamps to the amount of one cent for each ounce of seeds to be enclosed, if to go under 1500 miles, or two cents if to go over 1500 miles. (Most places West of the Mississippi river are over 1500 miles.) N.B.—The total amount of stamps required can be reckoned from the table of seeds below. Any fraction over even ounces will need an extra 1c. or two 1-cent stamps according to distance. Forward the above prepared envelopes to this office, and the seeds will be enclosed according to the numbers on the enclosed slip. To save letter postage, let there be no marks on the envelopes except the address and stamps. About 2 ounces will go in a common sized envelope

John Smith,
Albia,
Monroe County,
Iowa.

Field, and Vegetable Garden Seeds.

No.	Weight of package.
135—Mammoth Long Bearded Spring Wheat.	One ounce.
141—Improved King Philip Corn.	One or two ounces.
141—Darling's Early Sweet Corn.	About one ounce.
186—Evergreen Sweet Corn.	About one ounce.
98—Long Red Mangel Wurzel.	About one ounce.
187—Conn. Broad Leaf Tobacco.	About one-eighth ounce.
188—Genuine Havana Tobacco.	About one-eighth ounce.
191—Mammoth Millet.	About one-half ounce.
99—Speltz or German Wheat.	About one-half ounce.
190—Nepaul Barley.	About one ounce.
8—Daniel O'Rourke Pea.	About one ounce.
9—Champion of England Pea.	About one ounce.
99—Prince Albert Pea.	About one ounce.
12—Green Kohl Rabi.	About one-fourth ounce.
13—Enfield Market Cabbage.	About one-fourth ounce.
145—Flat Dutch (Water) Cabbage.	About one-fourth ounce.
192—Improved Stonemason Cabbage.	One-fourth ounce.
199—Red Dutch Cabbage.	About one-fourth ounce.
64—Extra early Round Turnip Radish.	One-fourth ounce.
150—Early Paris Cauliflower.	About one-eighth ounce.
147—Neapolitan Cabbage Lettuce.	About one-fourth ounce.
72—Imported Brussels Sprouts.	About one-eighth ounce.
101—Improved Long Orange Carrot.	About one-half ounce.
145—Long Dark Horn Beet.	About one-half ounce.
149—Extra early Bassano Beet.	About one-half ounce.
95—Hubbard Squash, pure.	About one-fourth ounce.
94—Fejee & Italian Red Tomato.	About one-eighth ounce.
154—Ice-cream Water Melon.	About one-eighth ounce.
76—Skidman's Netted Muskmelon.	About one-eighth ounce.
131—Hollow Crown Parsnip.	About one-fourth ounce.
66—Extra Curled Parsley.	About one-fourth ounce.
151—Yellow Danvers Onion.	About one-fourth ounce.
152—Fine Large Cheese Pumpkin.	About one-fourth ounce.
17—Red Strap-Leaf Turnip.	About one-fourth ounce.
71—Long White French Turnip.	About one-half ounce.
195—Early Short Horn Carrot.	About one-fourth ounce.
74—Solid White Celery.	About one-fourth ounce.
153—Sage.	About one-eighth ounce.
107—Summer Savory.	About one-eighth ounce.
157—Long Prickly Cucumber.	About one-eighth ounce.
196—Green Curled Kale.	About one-fourth ounce.
198—Improved Purple Egg Plant.	About one-eighth ounce.
21—Winter Cherry.	About one-eighth ounce.
197—Linnæus Rhubarb.	About one-half ounce.

Flower and Ornamental Seeds.

89—Cotton Plant (2 kinds, mixed).	One-half ounce.
111—Castor Oil Bean.	One-half ounce.

On an average any five of the following varieties will go under one 1-cent stamp, (or two stamps if over 1500 miles.)

200—Fancy Gonds, (mixed varieties) (ha)*	212—Fine Sweet Peas, (ha)
201—Scarlet Chinese Egg Plant, (ha)	134—Whitlavia, (ha)
202—Animated Oats, (ha)	49—Candytuft, (ha)
177—Graceful Quaking Grass, (ha)	123—Gilia nivalis, (ha)
23—Mignonette, (ha)	182—Sweet Alyssum, (ha)
22—Mix'd Nasturtium, (ha)	169—Clarkia pulchella, (ha)
31—Chinese Pink, (ha)	175—Mixed Salpiglossis, (ha)
32—Portulacac Mix'd, (ha)	168—Sweet River Daisy, (ha)
51—Phlox Drummondii, (ha)	50—Mixed Schizanthus, (ha)
30—Tassel Flower, (ha)	40—Escholtzia Californica, (ha)
37—Beautiful Zinnias, (Mixed) (ha)	213—Xeranthemum Annum, (ha)
203—Mx'd German Poppy, (ha)	125—Long tubed Centranthus, (ha)
204—Mxd French Poppy, (ha)	216—Acroclinium Rosenm, (ha)
205—Double French Marygold, (ha)	27—Coxcomb, (ta)
183—Fine Mixed German Asters, (ha)	33—Cypress Vine, (ta)
206—Golden Straw Flower, (everlasting) (ta)	207—Rhodanthe Manglesli, (everlasting) (ta)
208—Crimson Globe Amaranth, (everlasting) (ha)	122—Bellis, (hb)
210—Convulvulus Tricolor, (ha)	125—Standing Cypress, (tb)
173—Mixed Larkspur, (ha)	42—Foxglove, (hp)
67—Malope Grandiflora, (ha)	209—Dw't Blue Larkspur, (hp)
211—Fine Mixed Lupins, (ha)	171—Forget-Me-not, (hhp)
	215—Eretnocarpus Vine, (tp)

* (ha), hardy annual; (hba), half hardy annual; (ta), tender annual; (hba), half hardy biennial; (tb), tender biennial; (hp), hardy perennial; (hhp), half hardy perennial; (tp), tender perennial.



Containing a great variety of items, including many good hints and suggestions which we give in small type and condensed form for want of space elsewhere.

Will the Reader please refer early to a few special business items on page 378?

Our Exhibition Tables have been pretty well supplied for the season. The usual report, which is necessarily omitted now, will be given next month.

The Free Seed List, though crowded into small type and limited space, will doubtless be examined with interest. We expect to distribute half a million parcels of valuable seeds, of good quality, free to all subscribers.

Bread Exhibition.—We call special attention to the Exhibition of Corn Bread. (See page 372.) The exhibition will, of course, be open free to the public, and will doubtless be of great value to all our readers, in the information brought out and published. We contemplate having several successive exhibitions in different departments of Farm, Garden, and Household products, implements, etc. We hope for liberal contributions to our first exhibition on Dec. 14, opening at 1 o'clock, P. M.

Back Numbers for Sale.—Having Stereotype or Electrotype plates of all the German numbers now published (since July 1858), and of all the English editions for five years past, we can always send any desired volume or single copy, back to those dates. Price, post-paid, \$1.12 per volume, or 10 cents per number. Bound volumes, \$1.50 each, or \$2 if sent by mail.

Receipts not Needed.—Unless specially desired, we do not send receipts to individual subscribers. As the paper is only sent so long as paid for, its reception after forwarding a subscription, is a token that the money has been properly received by us. Failures by mail are now of rare occurrence, and the few that do happen are usually the result of want of care in properly sealing and directing letters.

Preserving the Volume—Binding.—The nearest way of keeping the numbers is to have them bound up. Any book-binder will probably do it for 75 cts, with marbled paper covers. Those who can send volumes to this office can have them bound in regular book style, gilt letters on the back, etc., for 50 cents each. We have these covers prepared by the thousand, having a large brass stamp for embossing them, and can thus bind cheaply. The prepared covers, ready for binding, can be furnished at 25 cents each, but are not mailable. The numbers can be preserved readily, however, by placing them together, and punching through the back with an awl, and sewing together with a strong thread.

The Telegraph Explained.—In connection with the completion of the Telegraph to the Pacific, noted on page 358, our newer subscribers, who have not seen former volumes, may be glad to learn that in the September No. of Volume 17, (1858,) is given one of the most plain and complete explanations of the whole working of the telegraph, ever published. The engravings and description make the subject so plain that even a child can understand exactly how thoughts or words are sent to distant points. As we have stereotype plates of that number, we can print and supply any copies desired, at the usual price, (10 cents per copy, sent post-paid.)

Prize Essays.—A considerable number of Essays in competition for the prizes offered on page 293 (Oct. No.), are received, and more are coming in daily. It was intended to commence the publication of the successful articles in the present number, but the yearly Index has crowded out this and other valuable matter, and we have been obliged to postpone it until the commencement of the new volume. Contributors and subscribers, will please exercise patience; we are equally anxious with them, to have the work in progress.

150 Subscribers Lost!—When a subscriber writes us a respectful letter asking sundry questions, and we apparently pay no attention to the letter, we suppose he will return the compliment by paying no attention to us thereafter. But that is just about the state of affairs with reference to some 150 of our readers. We have in the paper, or out of it, responded to many thousands of letters this year, and with pleasure, though to accomplish the work, we have often, four nights out of seven, sat at our writing table many hours after our subscribers have re-

tired to rest. We have a strong constitution, developed by the active labors of the farm all through our earlier years, and we can and do attend to our business and editorial duties 15 hours a day on the average, aside from meals and sleep, yet we have not been able to respond to all the letters received from our vast army of readers that demand personal attention. No one has been neglected willingly, but some things can not be done. We beg the pardon of those who have thus been apparently neglected. These letters, months old, are here before us, marked "for immediate reply," but the days and nights are too short. Excuse us friends, and if possible we will do better another year. We must have still more editorial help, and hope to be able to afford it, if our friends will voluntarily aid us in enlarging our list of subscribers without expending much in advertising. Ten thousand extra subscribers, obtained without extra expense, will afford profit enough to pay another competent editor. Will our friends neglected this year, and others, each furnish one or more of the desired additions?

P. S. Since writing the above, we have concluded to take for granted, that our readers will aid in securing the desired new subscribers, and we have, in advance, secured the requisite editorial aid, as stated on page 358. Now we shall bring all things up square and promptly.

Something for Boys—Tool Chests.

—We believe in giving boys tools. If supplied with these they will acquire skill and ingenuity that will always be beneficial in all stations of life. A man is badly off who must run to a mechanic for every trifling job requiring the use of tools. We take pleasure therefore in calling attention to Mr. Parr's advertisement on page 376. We have, on our exhibition tables, one of each of the sizes advertised, and invite all who can, to look at them. See also the new premiums, (Nos. 24, 25, 26,) where we offer three sizes of these chests. They are very fine, and worth the effort of our young friends to obtain them. We have not room to describe all the various tools. The largest sizes are the best, but any one of those costing \$8, \$13, or \$20, respectively, will be worth its price. How many of our boys will earn one? See the premium table for the number of subscribers required.—Don't forget the great Dictionary.

75 lbs. Linnæus Rhubarb Seed for Subscribers.

—We have this year gathered, and placed in our free seed distribution, a large quantity (75 lbs.) of pure seed of the genuine Linnæus Rhubarb or Pie Plant, which is one of the best, probably the best variety of this excellent garden plant. Those who can get the roots will save a year or two of time; but those who can not get roots should sow the seed. Mr. Buist says: "Though the plants raised from seed will not be of a uniform character, yet from seeds of the best kinds all will be worth cultivation."—The plant is so valuable for early sauce and pies, as well as for putting up for winter, that every family should have it in the garden. There is also much talk of its great value for wine making; but on that point we have no experience.—The seed is to be sown in early Spring. The plant grows well in all climates. Full directions for culture will be given in due season. Our parcels will be abundantly large for any garden, and cost subscribers only the one cent for postage.

A vote of Thanks.—A subscriber from

Central New-York called at the *Agriculturist* Office this week, to tender a "vote of thanks" in behalf of himself and nine of his neighbors, for our articles on the "Prospects of Farmers." Most other farmers thereabout sold their wheat at 90 c., and their rye at 55 c., soon after harvest. He says, the *Agriculturist* articles on the deficiency in Europe led them to hold on, and as the result they got \$1.10 for wheat, and 77 cents for rye—a clear gain to the ten persons of over \$1,700! This was the result in one small town only. What has been the saving in the whole country? The truth is, we took special pains to ascertain the amount of wheat sown in Europe last year, and to watch its growth. Our advice as to the prospective demand upon this country was no guess work. We shall take the same course next year; indeed we intend to go over the Atlantic and see the growing crops next season, and then let our own farmers know what to depend upon.

The New-York Observer.—An Adver

tisement of this old, influential Journal was received, but crowded out, and we will therefore give the substance here, viz., that the "Observer" is a large double sheet, equivalent to two ordinary complete newspapers, giving in addition to the news of the day, Foreign and Domestic, a synopsis of the doings of all religious denominations, and distinct Commercial and Agricultural departments—making a full compendium of intelligence for the family. Terms \$2.50 a year in advance. (One Dollar commission allowed for each additional new subscriber.) Publishers, SIDNEY E. MORSE JR. & Co., 37 Park Row, New-York.

Don't Paint the Trees.—S. D. Ball, of Clinton Co., Pa., writes that a neighbor of his had two fine sugar maple trees near his house, between which a bench was fixed for a rustic seat. In the Summer of 1860 he painted the seat, and to make the whole correspond, the trees received two good coats of white paint, at a time when they were healthy and in full foliage. The trees put forth feebly last Spring, and have since died—no doubt from the effects of the paint.

Barren Pear Trees.—J. W. Butcher, Northumberland Co., Pa. As your thrifty pear grafts are obstinate under bending the branches, compressing the sap vessels with strings, etc., we advise cutting back half of next season's growth, say early in July. Perhaps you may find fruit buds on the grafts next Spring.

What Pears to Plant?—A Subscriber in Tioga Co., N. Y., asks what varieties of pears to plant for market, on 3 acres—standards to be set 20 feet apart, and dwarfs to fill up the spaces. Many others ask questions of like character. The above query we handed an old nurseryman, who gave an assortment of 12 varieties of standards, and 22 dwarfs. We should say, choose only about half a dozen of the best kinds that have proved to do well in your own locality, and plant these mainly. You can then establish a market for these varieties; whereas, if you have 30 or more kinds, you will have a large assortment, with no reputation and no established market for any kind. Are we, or the nurseryman right? What say practical pear growers?

Bicknell Pears—Large Yield.—Mr. T. M. Brewer, (of the firm of Swan, Brewer & Tileston, Boston,) writes to the *Agriculturist*, that Mr. George Cushing, of Hingham, gathered the past season 23 bushels of Bicknell pears from a single tree. "This variety, though but little known to the pomological world, or any where but in the Boston market, is an old and long approved cooking pear. It is hardy, prolific, and for preserves, unequalled. It is supposed to have originated in Weymouth, and is largely cultivated in a few towns in that immediate neighborhood. It well deserves a more extended fame."

Slugs on Pear Trees.—J. W. Rugh, Pa., sends specimens of small slugs or insects which he says destroyed the foliage of his pear trees last Summer, continuing their depredations even after frost. The specimens received were too much decayed to be recognized. He writes that he used ashes, quick-lime in powder, and soap suds on them without effect. He wants aid.

Budding the Quince.—R. R. Pierson, New London Co., Conn. Certainly the Orange quince can be budded upon the pear quince stock. It is best to bud the small trees of $\frac{1}{2}$ inch in diameter, putting in the buds close to the ground, say in August when the bark peels readily. Large trees may be grafted in early Spring, the same as apple trees.

Keeping Pears.—W. S. Carpenter of Westchester Co., N. Y., kept his Bartlett pears in an ice house until Oct. 14th, when they sold for \$6 per 100, or about \$30 per bbl. to dealers who doubtless retailed them at a profit.

Cauliflowers.—Those who wrote so anxiously about their plants not heading out in September, are, we hope, gratified with fine heads. This plant does best in the cooler weather of October.

Lentils.—(*Ervum sativum*.) A subscriber asks if any body in this country is growing lentils successfully. He thinks they ought to be raised among us in large quantities, as they afford a fine cheap food for men as well as for animals. Esau sold his birthright for a pot of them. They resemble beans, but are better to the taste.

"Self Drying Beans."—John Musser, Lancaster Co., Pa. The beans received under the above name were planted, and yielded moderately well. They were dried on the vines as directed, and though a good sort, we do not see that they differ from the Lima and other pole varieties in respect to drying readily. All kinds of beans not quite ripe at frost, may be dried on the poles, or be shelled and dried, and they make a very good dish when cooked afterward, tasting partly like cooked dry beans, and partly like cooked green beans.

Planting Potatoes in the Fall.—Charles F. Raymond, Fairfield Co., Conn., writes to the *American Agriculturist* that last year, after digging his potatoes, he at once replanted the ground in drills. The old tops were placed in the drills with the potatoes; this kept the soil light, and afforded protection from freezing. The plot yielded well this year, and the potatoes were

free from rot. The subject of planting potatoes in Autumn was somewhat discussed in the *Agriculturist* a few years ago, and we thought the testimony pretty strong against the practice as a general rule. If not below the reach of frost, they will be frozen, and spoil.

A Long Squash Vine.—Emmor Brinten, Delaware Co., Pa., writes to the *American Agriculturist* that a Hubbard Squash vine raised from seed distributed from this office, grew to the length of 207 feet, including the length of the laterals; the main vine was 54 feet long. Only 6 squashes, weighing in the aggregate 40 lbs. were ripened upon it. Probably more fruit would have been secured if the vine had been shortened by pinching off the ends of the branches after the fruit had fairly set.

Yield of White Sugar Beets.—A rather poor plot of ground which received a little bone dust last year, the only manure in a dozen years, was sown June 3d, with White Sugar Beets in drills. Bone dust was sown on the surface at the rate of 12 barrels per acre, and dug in. The crop, gathered Nov. 8, measured, after topping, within a fraction of 600 bushels per acre, worth at least 15 cents per bushel, or \$70 per acre for feeding. Deducting \$30 for bone dust, leaves \$40 per acre for expense of culture and profit. See next item.

Yield of Mangel Wurzel.—A plot by the side of the above, treated every way the same, and sown and harvested at the same dates, yielded 670 bushels of mangel wurzels. Considering the lateness of the planting, and the subsequent dryness, and taking into account that most of the bone dust is still in the soil, we think the above shows profitable cultivation. The preparation, sowing, and hoeing, were done at odd spells, and can not be estimated; but \$30 per acre would be a large figure.

Waite's Eclipse Turnips.—On trial, we find this new variety to be a nice, smooth turnip, yellow skin, white flesh, and dark red top. For some reason, perhaps its goodness, it is with us much injured by insects, so much so that on lifting the roots early in Nov. a good many were bored through and rotten. We hope this trouble has not been experienced elsewhere. We distributed many thousand parcels of seed among our subscribers the present year, and would like to hear from some of them. Our Long White French turnips in the same field were untouched.

"Chinese Climbing Bean."—Specimens under this name, called "Towhawk" also, received from J. Webb Jr., Marysville, Cal., proved on growing them, to be the same as the "Yard Bean" long known here, and said to be the kind most grown by the Aborigines or American Indians.

How Many Seeds in a Bushel?—An uncredited newspaper item is going the rounds, which gives the following as the number of seeds in a bushel: Timothy or Herds-grass, 41,828,360 seeds; Clover of medium size, 17,400,990 seeds; Rio Grande Wheat, fair and plump, 559,288 kernels; Rye 898,880 kernels. As there are 43,560 square feet, or 6,272,640 square inches in an acre, it is easy to estimate how thickly a bushel of seed would cover the ground. We shall be glad to receive an actual count of the number of different kinds of seeds in a bushel, from some one who has the requisite time and curiosity. An ounce accurately weighed and counted, would readily give the bushel count by multiplication. The bushel weight is: Wheat 60 lbs., or 960 ounces; Rye 56 lbs.; Corn 56 to 58 lbs.; Barley 48 lbs.; Oats 32 lbs.; Clover Seed 60 lbs.; Timothy Seed 42 to 45 lbs. The list might well be extended to several other common seeds.

Vitality of Seeds.—S. D. Leeds, Chautauqua Co., N. Y.—There is great difference in the duration of vitality in seeds. Those which have much oil in their composition spoil rapidly, owing to the fatty matter becoming rancid. Seeds of different character, particularly those protected by a shell, retain their germinating power much longer. Cucumber seeds have been kept good nearly 20 years, corn 30 years, and wheat for more than 1000 years. It is said that kernels of wheat found in a mummy case in Egypt were sprouted and yielded increase. Seeds keep best in a cool, dry situation.

Strawberries Blooming in November.—A. M. Scriba, of Westchester Co., N. Y., brings to our table blooms and green strawberries of all sizes, taken from his bed of Wilson's, Nov. 2d, and says many of the plants are in flower and fruit. We have seen and heard of many similar instances this year, some being as far north as the middle of Vermont. The absence of frost, with warm weather and Autumn rains started the

plants anew, especially those that were too weak to bear in June, and they are attempting to produce what they failed to do at the appropriate season. This late bearing will probably weaken the plants for next year.

Second Crop of Grapes.—A few days since, (Nov. 5th,) Mrs. Cune, Kings Co., N. Y., sent to the office of the *American Agriculturist* a bunch of well ripened Isabella grapes, as a specimen of the second crop grown on the vine this year. The flowers of this growth appeared in August, and the unusually prolonged warm weather brought forward 16 bunches of good grapes.

Hydrangeas not Hardy.—S. H. Kridelbaugh, Page Co., Iowa. Hydrangeas will require a slight protection in your climate—a few evergreen boughs or bundles of straw set up about them and well tied, or a box or barrel, with holes for ventilation, may be set over them. They will endure considerable freezing.

A "Pin Cushion Cactus," sent all the way from San Peto Co., Utah, by A. L. Siler, came in good order, and now forms a living addition to our plants.

Prairie Flowers.—A Hitchcock, Fillmore Co., Minn. Your specimens are: No. 1, *Escholtzia Californica*; No. 2, *Whitlavia grandiflora*; No. 3, *Schizanthus pinnatus*; No. 4, *Silene Armeia*; No. 5, *Eutoca viscida*.

Everlasting Flower.—Geo. Gordon, Mt. Healy, C. W. The flowers and seeds sent are the *Gomphrena Globosa*, or purple globe amaranth ("everlasting flower"). There are also yellow, white, and striped varieties, but the purple is the most desirable. We shall offer seed of this plant in our distribution. We have fine bouquets of the brilliant yellow varieties, and specimens of the purple, which will be "in bloom" all Winter, and for years if desired.

Taxes on Canada Thistles.—A correspondent of the Rural New-Yorker proposes that a tax be laid upon Canada Thistles. A good idea. Dogs are taxed in some of the States, because of the injury done by them to sheep, but we doubt whether they have caused half the damage resulting from the spreading of Canada Thistles. A tax 'well laid on' would wake up some "Rip Van Winkle" farmers, who can be reached only by a direct application to the pocket.

Orchard Grass.—Charles H. Ruc, Monmouth Co., N. J. Orchard grass is generally considered less valuable than Herds-grass, being coarser, less nourishing, and apt to grow in clumps or tussocks. It is prized by some cultivators because of its rapidity of growth, ability to endure drouth, and to grow well in the shade. When intended for mowing, it should be sown with clover. It may be sown in September, or with Spring grain. One bushel per acre with clover, or two bushels when sown alone, is the proper quantity.

To Destroy Sorrel.—Subscriber, Boston, Mass. Try lime, or ashes, on the soil covered with sorrel. This, with thorough tillage, will usually eradicate it. Draining, manuring, and good tillage will generally eradicate sorrel, which only comes in to fill up blanks on poor or exhausted soils where better crops will not grow.

Remedy for Weevil.—A "Reader" of the *American Agriculturist* states that he entirely destroyed the weevils that had badly infested a grain bin for two or three years, by keeping it filled with plaster of Paris a few months. It should be understood that this insect (*Calandria granaria*), is a small beetle, and not that which infests wheat in the field, and which is sometimes improperly called the "weevil." Midge, or Wheat fly is the correct name of the latter.—We do not see what better effect could be derived from plaster of Paris than from the same quantity of fine sand or fine soil. Lime should be better than any of these, theoretically, at least.

Hint on Whitewashing.—David White, Bergen Co., N. J., writes that all walls to be whitewashed, should first be washed with clear water, and dried before the mixture is applied. This will remove the dust, enable the whitewash to adhere better, and give a whiter color when the work is finished.—A thorough brushing with a stiff brush or broom, will generally suffice, unless the walls be much soiled.

Water Pipes of Cement.—"Subscriber." Cement pipes for conveying water may be substituted for iron or lead, where they will not be exposed to the action of frost. Full directions for making them were published in the *Agriculturist* Vol. XIX, page 341, (Nov. No.

Minnesota Crops.—The Commissioner of Statistics for 1860 reports the average yield per acre, of this young but prolific State, as follows: Wheat 22.05 bushels; rye 21.56; barley 33.23; oats 42.39; buckwheat 15.73; corn 35.67; potatoes 138 bushels. Near 10,000 gallons of Syrup were manufactured from the Chinese Sugar Cane. (The Cane crop was very much larger this year, (1861), as we learn from several correspondents; the amount has not been reported.)

A Large Dwarf Pear Orchard.—We learn that Messrs. Smith & Hanchett of Onondaga Co., N. Y., have recently planted an orchard of ten acres with 4000 Dwarf Pear trees, and intend to test the question whether they can be grown profitably for market fruit or not. The orchard is surrounded with a heavy stone wall, and is to have the further protection against intruders, of a honeylocust hedge. We shall watch the experiment with some interest. There is, and is to be for some time to come, a large unsupplied demand for good pears, in this and in other markets.

Seedling Apples from Illinois.—D. C. Benton, of Quincy Ill., sends to our table a box of seedling apples raised by himself, and requests a description. They are of full medium size; color red, a little striped upon the shaded side, the whole covered with greyish dots; calyx nearly closed and set in a deep, broad cavity; stem slender, deeply set; flesh yellowish white, crisp, tender and juicy, of a mild, acid flavor, very good. If the tree be thrifty and a good bearer, it will be worthy of propagating, in the vicinity of its native locality at least.

Grapes on Kelley's Island.—This Island, lying near the Southern coast of Lake Erie, is becoming quite noted for its adaptation to grapes. It contains about 2800 acres, nearly all tillable. According to the Field Notes, there were 380 acres in grapes last Spring, and the crop of this year will be about 5000 lbs. per acre. Nine pounds of Catawba grapes are used for a gallon of wine, and the wine is wholesaled at \$6 per dozen quart bottles, making the wine crop this year worth near \$75,000.

Sex of Strawberries.—W. H. White, of Montreal, C. E. The Triomphe de Gand, Austin, Early Scarlet, Wilson's, Iowa, Jenny Lind, Longworth's Prolific, and Hooker, are all hermaphrodite or perfect plants, requiring no other sorts to fertilize them. They are fast taking the place of the pistillate or imperfect varieties, as Hovey, McAvoy's Superior, Crimson Cone, Scarlet Magistrate, etc. These last named require some one of the other kinds growing near to fertilize them.

Making Dahlias Variegated.—Cynthia M. Green, Broome Co., N. Y. The different colors are obtained by sowing seed. It is a tedious process, however, some of the seed failing to vegetate, while most of that which does come up will probably give an undesirable bloom, but by persistence, one may obtain some choice varieties. As the desirable sorts are named, it is better to buy such roots as have become well established.

Dahlias Retrograding.—L. T. Gilkey, Franklin Co., Me. The large double dahlias now so common, are in one sense artificial, that is, they have been brought up to their present development, from the small single flower, by high culture, and if neglected they always show a tendency to return to the native form. The artificial growth may be maintained by generous treatment—good soil well manured, with sun light to grow in, at least part of the day.

Frost Aid in the Garden.—"New-England Mechanic" writes to the *American Agriculturist* thus: "My garden soil was stiff, heavy, and wet. I drained it, but it was still too compact to work well. Last December (1860) I spaded half of it into narrow ridges two feet high, so that the frost penetrated at least 2½ feet below the usual surface. The present year, the part so treated has been mellow, has worked easy, and produced nearly twice as much as the other half. Before leveling the ridges in the Spring, I put some leaves and cow-yard litter in the bottom of the trenches, which doubtless aided some, but the fine pulverized condition of the soil abundantly paid for the digging."

Celery Grown between Corn Rows.—A Good Hint.—We have received for the *Agriculturist* tables some large specimens of celery from Mr. Thomas Kearns, of Clifton, S. I., with the following account of the mode of culture he has followed with good results for several years: By planting between rows of corn, the ground yields two crops, and what is important, the celery plants are shielded from the "burning up" so much complained of. The corn (sweet) is planted in

drills four feet apart, the stalks 8 inches asunder. At the last hoeing and hilling of the corn, the celery plants are set between the rows, where they are shaded and get the benefit of most of the rain that falls. The drooping ends of the corn leaves conduct the falling rain and condensed dews directly upon the celery rows. When the plants are well established, the corn is topped, letting the sunlight in more freely; and when ripe, the stalks are removed, leaving the celery in full possession of the ground.

Poultry Book.—C. Babcock, Essex Co., Mass. Bement's Poulterer's Companion, is the best poultry book. Price post-paid \$1.25.

A Neighbor's Poultry.—J. J. H. Gregory relates in the Country Gentleman, how two neighbors settled the question of marauding fowls. Mr. P. missed his fowls, and hearing Mr. A. had them in his possession, sent a note asking their return. Mr. A. replied, that finding some poultry trespassing upon his premises, he had cooped and fed them, and that they would be returned whenever the damages and expenses were paid. Mr. P. replied, "keep them." And so the question is peacefully solved without resorting to sticks, stones, or terriers.

Poultry Feed.—The Maine Farmer recommends to feed poultry with meal made by grinding corn together with the cob. It says that hens and turkeys eat it with avidity, and thrive well upon it.

Bird Laws of New-York.—George Gratacap, Westchester Co., N. Y. The laws enacted by the last Legislature of New-York are ample for the protection of birds, if they are enforced. It is the duty of all interested to see that the penalties are promptly inflicted in every case of violation.

Convenient Pig Trough.—J. W. Freley, Windsor Co., Vt., writes that one of his neighbors tried the plan of a pig trough described on page 293 (Oct. No.) and says the idea is alone worth a year's subscription to the *American Agriculturist*.

Prolific Sheep.—D. R. Dean, of Chantauque Co., N. Y., writes to the *Agriculturist* that a Mr. Edwards, of that place, has a cosset ewe which dropped twins in January that are now full grown sheep. Early in October she had another pair of twins, making four lambs in ten months.

Leicester vs. Bakewell Sheep.—"Gailey," Indiana Co., Pa. The old Leicester sheep, a large, coarse breed of Central England, was carefully bred up by Mr. Bakewell, who judiciously selected the best animals with the design of combining a good form with prime fattening qualities. The result was highly satisfactory, and his improved stock were called the Bakewell or New Leicester sheep. They of course differ materially from the original Leicesters.

A More Prolific Sow.—H. W. Cheney, Franklin Co., Vt., writes to the *Agriculturist* that he has a more prolific sow than the one mentioned on page 325 (Nov. No.). His animal dropped 14 pigs, Aug. 5th, 1860; on April 2d, 1861, she had a litter of 16, and Sept. 7th, 1861 gave birth to 17 pigs, making 47 in 13 months. Who will beat it, and lay claim to having the prolificest sow?

P. S. This looks like it.—J. W. Freley, Windsor Co., Vt., writes that a sow in that neighborhood brought forth 21 pigs in February, and in August 18 more, (39 in seven months!) 37 of them lived and thrived!

Horned Toad.—A. L. Siler, of San Peto Co., Utah, sends a specimen, such as was shown on page 24, Vol. 18. The animal is quite lively after its long incarceration—having been bottled 7 weeks previous to sending. It may be seen in our office. As it lives on land, and in other respects resembles a toad, we think that it is proper name, though it has quite an *alligator* "look."

Sweet Butter in Winter.—L. Palmer, Luzerne Co., Pa., writes to the *American Agriculturist*, that to ensure a thick cream, and prevent the bitter taste which Winter milk and butter often have, the milk should be set on the stove after straining, and heated thoroughly, but not boiled. She says the quality of the butter from milk so treated, will be greatly improved.

Paying Judges at Fairs.—A New Feature.—Few persons without actual experience know the labor required of those who consent to act as officers, judges, etc., at our Agricultural Fairs, and it is not to be wondered at that so many are absent at roll call on exhibition day. The Columbia Co. Agricultural Society, at Hudson, N. Y., this year complimented seventy five

members of the various committees of judges, by presenting each of them with a copy of the *American Agriculturist* for 1862.—Not a bad idea.

Metropolitan Washing Machine.—"Subscriber," Athens, Ill., will find this machine fully described in *American Agriculturist*, Vol. XVIII, page 280 (Sept. No.). We can not now republish the article. The above number, or any other as far back as Vol. 16, will be forwarded post-paid on receipt of 10 cents.

Flax and Cotton.—"D. R." As to your inquiry whether there is any reason for going into flax culture, except to compete with cotton, we say, we hope so. A paper on our table states that "from \$14,000,000 to \$15,000,000 is annually expended by the United States in the purchase of linen goods from Great Britain, which country is obliged to procure the raw material for their manufacture from other countries with which the United States has no commercial relations."

Humbag at Plaistow, N. H.—Several subscribers have forwarded to the office of the *American Agriculturist*, circulars or schemes of what is called a "social banquet" to be held at Plaistow, N. H., at which it is stated prizes from \$10,000 to 50 cents will be distributed by lot. Do the authorities of that place allow a lottery (for it is nothing else) to be conducted there, contrary to law? A lottery is bad enough at best, but this scheme is probably a swindle throughout. Will some subscriber in that vicinity please have an eye to the matter.

How Swindlers Operate.—It appears from the circulars forwarded by subscribers to the *Agriculturist*, that some of humbugging fraternity, recently exposed as operating in New Hampshire, are issuing their schemes for a "social banquet" from a new locality. Their plan of operation appears to be, to change their location once a month, to avoid the consequences of exposure. Let our readers be on their guard against all circulars from unknown parties making great promises, no matter where they come from.

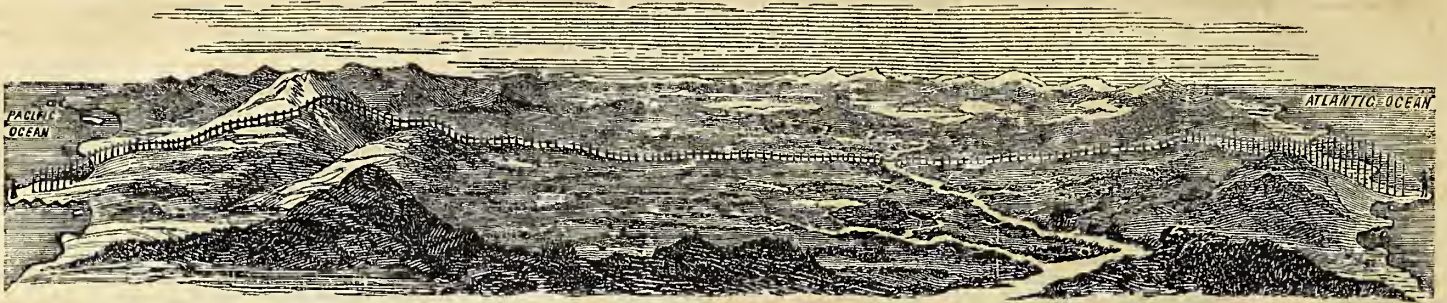
Medicinal Property of Corn "Silk."—The *Botanische Zeitung* (Botanical Journal) of Germany says: "According to Landerer, in Greece the silk or pistils of Indian corn are claimed to have peculiar healing power, especially for gravel and other urinary diseases. A strong decoction or tea is made of the silk steeped in water, which is given to the patients, and hundreds who have used it, acknowledge its excellent effects."

Save the Coal Ashes.—Hard Coal is coming into such extensive use throughout the country, that the ashes produced yearly amount to a large aggregate. Though not worth nearly so much as wood ashes, they contain some alkali, especially when wood is freely used in kindling, and should not be wasted. They are well adapted to lighten compact, heavy soils, and several correspondents speak of good effect from applying them as a top dressing to grass lands. They should be sifted before using as a lawn top-dressing, or for garden manure. The coarser clinders are excellent for making paths across wet places.

Salt in Manure.—It is claimed that salt added to fermenting manure will unite with and retain the escaping ammonia. Whether this be so or not, salt is of itself a good fertilizer on most soils, and all refuse salt, and waste brine should be added to the manure heap, and not be thrown out into the street gutter, or elsewhere, to be lost or wasted.

Wool Waste for Manure.—B. S. Russel, Towanda, Pa. Refuse wool, or the dust, sweepings, etc., from a woolen factory, make a first rate fertilizer, as wool contains much nitrogen. There is hardly a choice of crops to use it upon, though it would probably be more profitable on the cereals or grain crops, than on root crops. It will do no harm on your grape border, though in very large quantity it might stimulate too great a growth of vine at the expense of fruit. We can give no better rule than to apply it wherever you want good manure.

Pickle for Beef and Pork.—J. R. Aten thinks his rule is better than that of Mrs. E. F. Haskell, on page 343, November *Agriculturist*. He thinks too much salt is used, and recommends the following: Pack the beef or hams in a cask, rubbing them with salt. Cover with a brine made of 4 gallons water, 3 quarts salt-peter, or mix in these proportions enough to entirely cover the meat. Leave the meat in the pickle for two months, when it may be taken out, and smoked with hickory wood. He says it always keeps well, especially if packed in a box and covered with oats. (We don't know about the oats, especially where they are worth 40 to 50 cts a bushel. A friend at our elbow says, he has used cut straw to keep out flies and to preserve a uniform temperature.)



Answer.—“Only 10½ o'clock, A. M., Oct. 24th, 1861, and ALL'S WELL.”

TALKING ACROSS THE CONTINENT.

‘Call.’—Oct. 24., 1861.
2 o'clock, P. M.—All
hall to the Pacific!
What's the Hour?

Aside from war topics, the most noteworthy occurrence since the last *Agriculturist* went to press, is the completion of the telegraph from the Pacific ocean to the Atlantic seaboard, making a continuous wire 5000 miles long, from San Francisco, Cal., to Cape Race, Newfoundland. Messages are now sent almost instantaneously over this whole distance. News from Europe, received at Cape Race at noon, and sent at once to San Francisco, arrives there almost as soon as the sun which arose at Cape Race 4½ hours before. A message over the wires, started at noon from New-York, would reach San Francisco at a quarter before nine A. M., of the same day.

Above we have tried to give a birds-eye view of this great work. Our Continent, though but an island in the broad expanse of water that overspreads three-fourths of the earth's surface, is yet a vast plain, broken by great mountain ridges on the west and east, and intersected by mighty rivers. Starting at the Pacific, the row of poles bearing aloft the diminutive wire, rises over the Sierra Nevada peaks, descends into the Utah Valley, then over the snow-capped Rocky Mountains, then away through the Missouri and Mississippi Valleys, then over the Alleghanies, and down the Atlantic slope containing many States, each almost as populous as kingdoms of the old world. Those who have traveled across a single State, can have a faint idea of the immensity of the space traversed by the living wire—the nerve that instantaneously carries the pulsations of thought from shore to shore of our continent. We on the Atlantic can seize the wire and shake hands with our brethren on the Pacific, and hold converse almost as familiarly as if we stood face to face. We stand in awe as we contemplate the achievements of science, and wonder what the next age, perhaps the next year, will bring forth.

Unusual Announcement.

Interesting to all our Readers, and particularly so to the Readers of the “Connecticut Homestead.”

It is seldom that any announcement is made of additions to, or changes in the editorial department of this journal. The aim is to make the *American Agriculturist* an institution of itself—not dependent upon any local or temporary influences or connections. The paper must go right on, even though circumstances should remove every one of those now connected with it. For business purposes, the name of the responsible Editor and Proprietor is given. (We might keep at the head of our columns a long list of those laboring to make these pages valuable—W. Clift, A. D. Gridley, W. A. Fitch, Clarkson Taber, Karl Riedel, etc., etc.—but this is not needed, nor is it desired by them. What the *Agriculturist* itself IS, is the essential thing.) We will, however, depart from the usual

custom, to announce that hereafter the *Agriculturist* will have added to its previous working editorial force, MASON C. WELD Esq., the well known editor of the Connecticut Homestead, a paper that has for several years ranked foremost among the reliable agricultural and horticultural journals of the country. The Homestead will be merged into the *Agriculturist*, which will thus combine the advantages of both journals.* Mr. Weld has enjoyed peculiar advantages. We knew him, years ago, as the efficient assistant of the elder SILLIMAN in the general Laboratory of Yale College, and also of Prof. SILLIMAN, Jr., and the late Prof. Jno. P. Norton, in the agricultural school of that College. Mr. W., afterwards devoted considerable time to study and observation in Europe, a part of the time with Liebig himself. His subsequent experience as Editor and Publisher of the Homestead, and his practical acquaintance with the agriculture and horticulture of Connecticut will, we trust, aid materially in increasing the value of the *Agriculturist* to all its readers. And here let us add, that we believe the above and other general arrangements, warrant us in confidently promising to all our readers that the next volume of the *Agriculturist* will far excel the present and all previous volumes in the amount, variety, and value of the practical information it will furnish for the Farm, Garden, and Household.

*SPECIAL TO SUBSCRIBERS TO THE “HOMESTEAD.”—Arrangements are made for the *Agriculturist* to be sent to subscribers to the Homestead for the full time they have paid in advance for that paper. Mr. Weld will be with us in a week or two, and we hope his former patrons and readers will accompany him to his new field of labor.

Immense Sales of Breadstuffs.

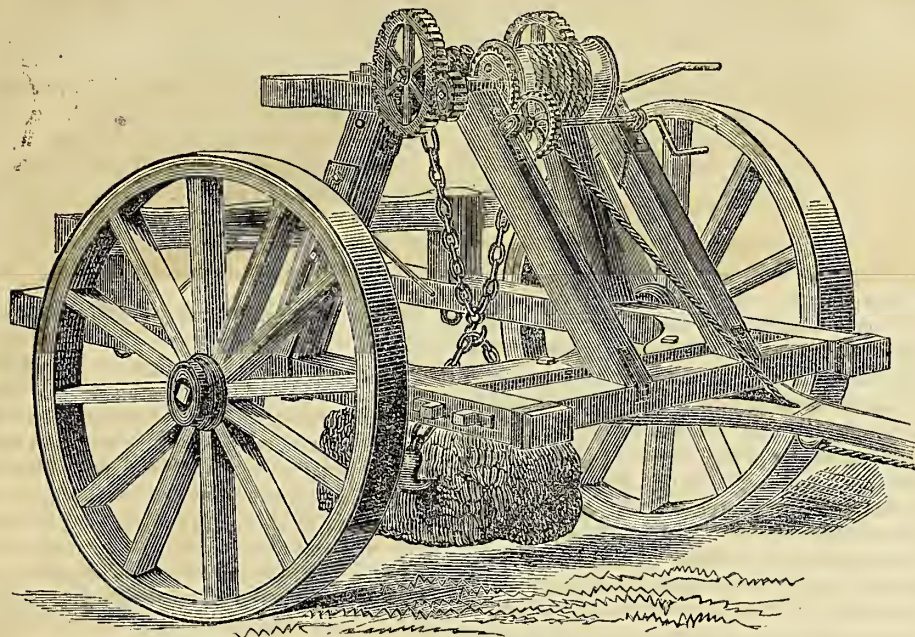
The prosperity of the whole country, not of farmers alone, but of all classes, is just now so directly connected with the flour and grain markets, that their condition is a matter of the highest interest to all. Money is the strong arm of the government. Without this it would be impossible to provide munitions of war, and to pay, clothe, and feed the vast armies now needed to re-establish our country on its former basis. Money the Government has in abundance. Instead of sending abroad forty to sixty million dollars of specie, as in previous years, we are not only keeping what we have, but receiving immense sums from other countries in return for the surplus breadstuffs which Providence has given to us just at the time when all Europe is deficient. The Banks of this and other cities are so surfeited with solid coin, that they, from time to time, loan to the government fifty millions in a lump, and more readily than five millions could usually be furnished.

The condition of our own and foreign grain markets was discussed pretty fully last month.

Suffice it to say here that our latest reports from Europe fully confirm all that we have previously stated. France has been wide-awake to the crisis, and the most pressing immediate wants of that country have been provided for, but the demand will continue large, up to the next year's wheat harvest, at least. In England there was almost a panic at latest advices. The *Mark-Lane Express* of the 28th ult., says, “. . . The season is no ordinary one, and requires more than ordinary promptness and activity to steer the (breadstuff) trade through the breakers that are ahead. Stimulated by Government, the French merchants act instantly, with a certainty of success, both because they have official support, and because the large requirements of the two countries are patent to every one. It is doubtful whether the whole range of foreign markets will furnish wheat enough to supply the deficiency.”—We have confirmatory reports from other sources, both in England and on the Continent. England and France will not be easily led into a war with us for cotton, when a war would shut out our breadstuffs.

The market review prepared for this month's *American Agriculturist* (page 376,) gives, in very condensed form, some exceedingly interesting tables, showing at a glance the trade in breadstuffs, both in the New-York markets, and in several important interior towns. We hardly need repeat them here. It will be seen that during the past 27 business days the sales in this market alone, mainly for export, have reached the enormous figures of 795,000 barrels of Flour; 8,998,000 bushels of wheat; and 4,521,000 bushels of Corn. The flour and wheat sales equalled 12,596,000 bushels of wheat, or an average of nearly half a million bushels every day for a month past. The known sales of flour, wheat, and corn, for only 27 days past, foot up 17,494,000 bushels—seventeen and a half millions! or an average of 648,000 bushels daily. And nearly all of this has gone abroad. The exports from this City alone, from January 1st to Nov. 13, have been 22,364,403 bushels of wheat; 2,484,079 barrels of flour (equivalent to 12,420,395 bushels of wheat); and 10,407,300 bushels of corn. Total 45,192,098 bushels. The amount will be swelled to considerably over 60,000,000 bushels before the close of the year. Philadelphia has also exported this year an equivalent of 3,793,173 bushels of wheat and corn, viz. flour 329,512 bbls.; wheat 1,443,563 bushels corn 703,045 bushels.

The effect upon the farming and other interests of this country, of these large shipments, and of the continued large foreign demand, which must last for seven months at least, can readily be conceived. We shall, in future numbers, present further interesting items in connection with the grain trade of the country. The speedy closing of the canals will, during winter, materially affect the markets of this city at least and doubtless those of the whole country.



Just the Thing for Big Stones.

Our readers who have always lived on the smooth, clean prairies, and those who occupy alluvial lands where it is difficult to find a stone large enough to throw at the blackbirds in the corn field, may as well pass over this article without reading; *they* can not appreciate it as can thousands of others who like ourselves were brought up and still live on the drift soils. One of the hired plowmen, for whom we drove team when a boy on the paternal farm "out west," used to tell us that, once on a time, a certain powerful evil genius was flying over the country with a leathern apron full of stones (huge boulders) to hurl at wicked boys and men, and that when he got just over that particular farm, the "apron strings broke." In the innocence of childhood we of course half-believed the statement, and well we might, for every rod or two, the plow would "bring up" against a big round stone weighing any where from five hundred pounds to five or more tons. We have traveled 'considerable,' and judging from what we have seen, and from what we have found in our present location, many hundreds of miles from the old farm, we have come to the conclusion that the "apron string" must have broken a good many times, and over a good many places. But seriously, there are tens of thousands of farms in our country that are disfigured with rocks and boulders, which are not only an eyesore, but they sadly interfere with easy culture. We know by experience the cost of sinking these "round heads" in deep pits, and of "blowing" them with powder. Those that we disposed of last year, cost not less than a dollar and a half apiece; and a neighbor of ours must have paid a hundred dollars this year to remove fifty or sixty of them. Others tell us of expending a hundred dollars an acre, or more.

But, happily, these troubles are in a fair way to be greatly lessened, if not done away with. At the Westchester County Fair we stumbled upon a machine which we frankly confess "far exceeded our expectations," though we had read large stories of the Briarean monster. Around the Fair grounds were sundry boulders, weighing from one to five tons or more, many of them nearly buried in the soil. With the machine represented above, two men and two pairs of oxen were lifting these huge rocks out of their

resting places, and moving them off from the ground, apparently with as much ease as a man would gather up and carry off so many two bushel bags of wheat. In company with Mr. Oleott of the Tribune, we asked the privilege of "trying our hand at it." The machine was driven with its great broad-rim wheels astride what appeared to be a small rock of a few hundred pounds weight. The two hooks were thrown on two sides of the small jutting head of the rock, and we two only, commenced turning the windlass. In three minutes we had lifted out what proved to be a sunken blue stone boulder, weighing by measure and estimate not less than 7000 lbs. or $3\frac{1}{2}$ tons. In less than four minutes from the time we went to the windlass, the oxen were carting us, with the "big stone" around the fair grounds, to the no little amusement of the small and large boys, and to the gratification of owners of stony farms. It is perhaps enough to say of the effectiveness of the machine, that the exhibitor was offering to contract to lift and cart off stones from any man's fields, at \$17 per hundred (17 cents apiece!)—the stones to be visible, or sunken to a level with the surface, and to be of any size from 10,000 or 12,000 pounds each, down to such as could be got out more cheaply otherwise by the owner of the land. And at this price the exhibitor claimed that he could earn from \$20 to \$25 per day, with two men, a boy, two yokes of oxen, and the use of the machine costing \$200.

We were so much pleased with the working of the implement that we sent an artist to make the above sketch from one being built in this City. It is called, we believe, "*Bolle's Rock Lifter*." The machine at the Westchester Fair was exhibited by Mr. Knapp. Any information may be obtained of Nathaniel E. Adams, Stamford, Ct., who is one of several owners of the patent for different parts of the country. We have not even a hand bill, to indicate any thing further in regard to the manufacturers. It will probably be advertised by some of the interested parties.

DESCRIPTION.—The engraving shows the principal parts of the Rock Lifter. A large, very strong frame is supported upon broad tired wheels, and so balanced that the tongue can be readily lifted even when a 5-ton stone is suspended. Strong hooks grapple two sides of the stone. If only the top of the stone is visible,

holes or indentations are made with a stone chisel for the points of the hooks. A heavy chain is linked to the hooks and this plays through a hook on the end of the lifting chain coming down from the windlass. The axle or windlass is a solid iron rod. The small diameter of this windlass, together with the multiplying wheels, give enormous lifting power. As above stated, two of us readily raised out of its ground bed, a rock weighing $3\frac{1}{2}$ tons. It will be seen that a rope runs from the drum down along under the tongue. Two yokes of oxen are used, and generally the chain of the forward pair is changed from the end of the tongue to the end of this rope, and then on starting the forward pair they wind up the drum and raise the stone. When raised above the ground, the chain is replaced in the end of the tongue, and the two yokes of cattle cart the stone off to any place desired. We doubt not the machine will prove a great boon to the owners of rocky land.

Whitewash for Roofs.

The New-Hampshire Journal says: "Farmers who are about to new shingle their houses, sheds, or barns, will do well to have the shingles dipped in whitewash with a little salt put in. Let the mixture be hot, that is to say, make your wash with boiling water, dip immediately and lay the shingles the next day, or after drying a little. The Hon. Frederick Smyth, of Manchester, N. H., bought hemlock shingles fourteen years ago, at a cost of \$1.50 per M., and treated them in this way, and the roof is tight now, no moss having accumulated on them, while neighbors in the same time have re-shingled where the first quality of pine was used without any preparation. Probably a better quality of materials so treated, would last much longer than hemlock, but whether long enough to cover the extra cost is doubtful. This wash is also a preventive against fire. To do any great good it should be used in the manner described, rather than put on after the roof is covered."—[The whitewash can do no harm, certainly, and will be likely to have some good effect. The boards under the shingles may well be whitewashed also.—Ed. *Am. Agriculturist*.]

Cattle Chewing Bones.

It is a matter of frequent observation, that cattle love to gnaw and suck bones. They will sometimes turn away from their salt, and from the finest grass, to enjoy a turn at a good bone fresh from the kitchen. Some persons have inferred from this that the land where such cattle feed is deficient in phosphate of lime. And hence, certain "professors" have urged the application to such lands of a fertilizer which they have benevolently prepared for the market.

But suppose that other professors, equally scientific and honest, fail to discover, by the most delicate tests, any such deficiency? And what if it should be found that cattle do not try to gnaw the substance of the bone, but only chew and suck it so as to get out the small portions of savory muscle and soluble gelatine that may adhere to the bone? Horses and colts love to chew leather—witness many a halter. They delight to gnaw a post or fence board. Do not boys love to chew "gum," and men, equally wise, to chew tobacco? Perhaps it would help to settle the bone question, if it should be found that these cattle continue to indulge their propensities long after bone-dust has been regularly mixed with their food.

OSSICULUM.

For the American Agriculturist.

Selecting and Preserving Seed.

Much more attention is paid than formerly, to the selection of seeds for the next crops. No item of farm labor pays more abundantly than this. It makes a very great difference even on good land, whether we have the best seed or an inferior article, plump wheat or that which is blasted, sound corn, with its full proportion of oil and starch, or that in which the starch has begun to mold, and the germ is but just alive. The latter seed may come up and grow, but it grows tardily, and shows the weak vitality of the seed all through the season. The oil and starch are designed to furnish nourishment to the germ when it first starts, before it has time to draw upon the aliment in the soil. The stinting of the plant at this critical time, affects all its after growth.

Some farmers have a "riddle" in the winnowing mill for the purpose of separating the small grain from the large. Thus, only the largest kernels of rye and wheat are saved for sowing. This is but little trouble, and if it adds but a single bushel of grain to the acre, it pays well. Indian corn is best selected from the stalk, the best ear on stalks that bear two or more ears. This has been so often tried, that there is no doubt of an increase of crop from such seed. Some care should be taken of the corn after it is selected, as it often molds or rots upon the cob. If it has become glazed early, it is generally enough to hang it up in bunches by the husks, in the loft of the corn crib, or in any other dry place. If this is not the case, it should have the benefit of artificial heat in the kitchen or some other place, where a fire is frequently kindled. All seed corn should be examined frequently until it is perfectly cured, which it should be by Christmas.

Less care is generally taken of roots, than of the cereals, in selecting tubers for planting, or to mature seeds for another year. But they follow the same law of improvement, and well selected roots pay quite as well. From an experience of several years, we have come to the conclusion that the best seed potatoes are the size next above the smallest, from an inch to an inch and a half in diameter. There is a double gain in selecting this size. They are not only the best for planting, but there is an increase in the measurement of the potatoes, if the larger ones are sent to market. We condemn the practice of cutting large potatoes, because it does not leave starch enough in the piece to nourish the eye before the roots take hold of the soil. The vitality of the stock is diminished by this practice, and the tendency of the tuber to disease is greatly increased. We have had much less rot since we began to plant whole potatoes. The objections to planting very large potatoes are, the cost of seed, and the tendency of the tuber to throw up more shoots than the soil about one hill can nourish. The small potatoes of the size we have indicated, are just right. We select them as we sort over the potatoes for market, and put them in barrels ready for use.

Other roots, such as turnips, beets, and carrots, are much better selected now, than in the Spring. Every one has noticed the large percent. of failures among roots that have been kept in the root bins through the Winter. A beet perfectly sound, and with all the appearance of life, often fails to grow. Smooth roots, of the most desirable shape, and of the largest size, should be selected to bear seed. They should be put by themselves, either buried in a pit or

out-door cellar, or packed in sand, and kept in the root room or house cellar, where they will not freeze. The crowns will then come out in good condition in the Spring, and send up strong stalks, and mature plump seed. It is by careful attention to such little things as these, in their season, that the farmer improves his crops from year to year, and increases his fortune. *

Drills better than Hills.

This subject is worthy of more attention than it has yet received. We can not account for the persistence with which cultivators adhere to the old practice of always planting corn, potatoes, etc., in hills, when both reason and experience are decidedly in favor of planting in drills. The slight advantage gained by being able to plow out rows both ways is more than counterbalanced by other considerations. We have become so thoroughly convinced of the advantages of planting in drills, both by our own experience, and by observation, that we plant nothing in hills, with the single exception of sweet potatoes, which in this latitude we plant on the tops of small circular mounds of earth, raised up so as to let in sun and warm air upon all sides. We believe that any field which will produce 40 bushels of corn in hills 3½ feet apart each way, four stalks to the hill, will yield 48 to 50 bushels if planted in drills 3½ feet apart, the stalks 10 inches apart in the drill. When four stalks grow together, both their leaves and roots are crowded, and they do not develop fully. When set in drills 10 inches apart, each stalk has room not only for its roots, but for its branches also, and the yield of each stalk will be fully as large as when crowded in hills. We have tried both methods thoroughly. This holds as true of potatoes and all other planted crops, as for corn.

Among other experiments we could name, here is one recently communicated to the Country Gentleman, by S. W. Hall: With a tape line, thirty three feet of a row were measured off in several places in the best corn, and also in the average growth of fields cultivated under the two systems. Within this distance in each case the bearing ears were counted, and also the silks or failures. In the drilled field there were 50 stalks, and in that planted in hills, 37 stalks in 33 feet. The average in both cases was about one ear to a stalk; the drilled corn yielded 13 ears above the hilled. It was also found that in the hills, the whole number of ears and silks together did not equal the ears alone of the drills; so that were the plants in the hills fed ever so well, and each silk filled, they could not even then have equaled the drills in yield.

Blanketing the Meadows.

"I keep my meadows well blanketed," said a subscriber to the *American Agriculturist*, who was noted for having the best hay crops. There was much philosophy in the remark. The dead leaves and stalks of grass lying loosely upon the surface of a meadow at the beginning of Winter, form an admirable covering, a real "blanket" for the roots. In too many instances close mowing, and closer feeding of the after-growth, have completely stripped off this natural covering, and unless there happen to be abundance of snow during the Winter, to partly protect the roots, the grass is badly winter-killed. It is not too late to partly remedy the difficulty, if such a mistake has been made this year. A liberal top-dres-

sing of well rotted manure, or fine compost, or even of muck, either decomposed, or pulverized, will aid in protecting the roots. The rains and melting snows of Winter and Spring will also wash much of the manure down among the roots, and next season's growth will be greatly improved, and thus repair much of the injury caused by too close feeding. This work should be done as soon as may be. If the ground be frozen, less damage will be done by cutting up the surface in driving over it.

Oyster Shell Lime—A job for Winter.

Every oyster shell is worth several kernels of grain, and if properly managed it can be made to yield its value. There is scarcely a village within two hundred miles of the seaboard without its regular supply of these favorite bivalves, and in the course of a year there is a large accumulation of shells. These may in most instances be had for the asking; the keeper of the saloon is glad to be rid of them. Farmers living near villages should secure the privilege of carting them away during the Winter, to be reduced to lime for home use. A kiln is not necessary to burn them. Make a pile of any rough fuel, as stumps, old roots, brush, peat, turf, etc., eight or ten feet square, and three feet high. On this spread say about fifty barrels of oyster shells, and cover with a layer of combustibles a foot thick. Bank up the sides and cover the top with sods. Fire the heap on the windward side, and when the whole is burned, there will be left a large amount of valuable material to be used for top-dressing, or better, to mix with the muck heap. In some places the oyster shells are crushed or ground, like bones, in a mill. There is a mill specially devoted to grinding or crushing oyster shells in Suffolk County, Long Island. Some farmers claim that the ground shells last longer, and act better than the burned shell lime. For peaty, or cold, damp soils, we should prefer the caustic alkali produced by burning, which is similar to common lime from limestone.

Burning the Soil.

Every one has noticed the excellent crops that follow the burning of brush and stumps upon a new clearing in the forest. This is partly owing to the large supplies of vegetable matter in the soil, and partly to the ashes that result from the burning. Potash, lime, and saline matters are thus furnished in large quantities to the growing crops. Beyond the burning to get rid of brush and other refuse matter, very little is done by this method to improve the soil. In England it is a prominent feature of husbandry upon peaty soils, and upon the stiff clays. A piece of land that does not produce well, is pared and burned, if there is sufficient vegetable matter in the soil, and if not, the lumps of clay are thrown into a kiln made for the purpose upon the field, and burned with coal or wood. With some farmers the practice is, to dig the clay out from shallow pits, that it may be the more readily dried. In burning they use hedge clippings, furze, roots, stumps, etc., covering them with the clay so as to make a slow mouldering fire. About a hundred and fifty bushels of ashes are applied to the acre with the most beneficial results for either grain or green crops.

The only instance of clay burning that has come under our own observation, was in the case of a large garden with a very stiff clay soil,

very good for fire brick. It had been a poor wet garden in the hands of a former proprietor. The new owner, who had recently come over from England, took it in hand, drained it, and burnt the stiffest portions of the surface and spread the ashes. There was a complete change in the character of the garden. Vegetables and flowers flourished in the greatest luxuriance, and fruits, especially plums, astonished the neighborhood. It was known as the best garden in the town.

It is probable that there are many places in the older States where this paring and burning will be the cheapest method of fertilizing the soil. It is particularly desirable upon drained brush swamps, where there are hummocks and inequalities of the surface. These may be cut off in the Fall, or in the mild weather in Winter, and piled for burning in windrows. Sometimes these swamps have a thick mat of roots and half decayed vegetable matter, six inches or more thick, that peels off from the peat beneath in large cakes or sods. Though there is some loss, it is a good plan to burn these as soon as they are sufficiently dried. They are in the way of the plow, and will not decay in several years. Burning puts them out of the way at once, and makes a smooth surface, while it adds a large mass of ashes to the soil. Where the subsoil is of clay, as often happens in these brush swamps, it is a good plan to take clay from the bottoms of the ditches, and burn with the sods. This improves the peaty surface mechanically, as well as by adding a fertilizer.

Burning is a good remedy for sour soils, and for those which are infested with weeds. Some times the grass fails in a low spot in the meadow, and the ground becomes covered with mosses, lichens, and a worthless vegetation. If only a couple of inches of the surface are pared with a plow, or with the hoe, and burned, grass seed will take readily and do well for a time. It is always desirable to accompany the burning with draining, for there is no permanent cure of a wet soil, but by getting the water out of it.

It would pay, in some localities, doubtless, to burn the soil of swamps and stiff clays for the purpose of spreading the ashes upon uplands. If a swamp is so situated that it can not be drained, it may still be valuable to furnish peat and ashes for the adjacent uplands. It is of little use to economize peat where a man has an inexhaustible supply on hand, lying worthless. If a bushel of peat ashes is worth more than a bushel of peat lying idle, better burn and use it. *

The Potato Disease.

An elaborate treatise on this subject has lately been published in Germany, written by Dr. A. de Bary, Professor of Botany at Friburg, whose acquirements and reputation entitle his opinions to attention. From extended observation and careful experiments, he is convinced that the potato rot is caused by a minute parasitic fungus, which first makes its appearance upon the leaves and stems, and is washed down by rains to the tubers. He announces a remarkable discovery respecting the method of propagating of the parasite. As is generally known, Fungi are reproduced either from the threadlike roots called spawn (*mycelium*) or by spores or minute cells which are thrown off from the parent plant. According to Dr. De Bary, the potato fungus germinates not only from spawn and spores, but under favorable circumstances, the spores when well supplied with water, undergo changes by which a number of reproduc-

tive bodies are brought forth closely resembling *Infusoria* or minute living insects. They move about in water for a time with great activity, by means of two lash-like appendages (*cilia*) one of which appears to be the organ of motion, and the other serves as a rudder. These *Zoospores* rapidly produce perfect spores, which may in their turn propagate and spread the infection. It is calculated, that 19,620 of the zoospores or reproductive bodies may be developed on $\frac{1}{144}$ part of an inch of the surface of a leaf. Supposing the number to be but 10,000, it would give 1,440,000 to a square inch, which fully accounts for the rapidity with which the "disease" is spread over a field. Warmth and plenty of moisture are indispensable to the germination of these fungi, as appears from the fact that the rot prevails most during wet seasons. From these facts it seems useless to attempt to get rid of a parasite which enters into and destroys the tissue of the plant, by using any external remedies. Prevention alone can be relied on. Early planting on well drained land, and cultivation calculated to ensure rapid and healthy growth, will do much for the security of the crop. Deep hilling, or at least enough to cover all the tubers is also advisable. Dr. De Bary recommends to plant a separate plot under the most favorable circumstances for the growth of seed tubers, at a distance from the main crop, and to watch carefully and remove every affected leaf upon the first appearance of disease. The amount of care required to do this, however, would apparently make the plan impracticable.

Preservation of Buried Potatoes.

A writer in the Scottish Farmer relates that by accident a large quantity of potatoes were buried about six feet deep in an old ice well. Two years after, in digging to remove the stones from the well, the workmen came upon the potatoes, and found almost the whole in an excellent state of preservation. Another person states that he had kept potatoes buried in the garden at the depth of three and a half feet, and found them perfectly sound at the end of two years, and possessing their original freshness, firmness, and good taste. [We suppose they were buried so deeply in a compact soil, that they were as effectually secured from air, as if hermetically sealed in a glass bottle. But unless in a very dry soil, they must have become "water-soaked."]—Ed. *Agriculturist*.]

Treatment of Seed Potatoes in France.

At the recent Exhibition of the Imperial Horticultural Society of Paris, M. Gauthier exhibited specimens illustrating his treatment of seed potatoes for the purpose of hastening their maturity the following season, and thus enabling them to escape the rot. The tubers are taken up as soon as ripe, and healthy ones of large or middle size are selected for seed. These are put into flat, square crates about 28 inches long, 14 inches broad, and 5 or 6 inches deep, made of narrow strips, with openings left between the strips on all sides and at the bottom; the top is left open, and the crate rests upon two thick cross-bars at the bottom. This permits a free circulation of air among the potatoes. They are then exposed for at least a month to the open air and rain, and kept through the Winter in an open shed or garret, where they are protected from frost; and not in a dark cellar, but always where the circulation of air is as free as possible. Under this treatment they soon become quite

green, and short thick shoots start from the eyes, which are carefully left undisturbed.

In early Spring the crates are taken to the field, and the tubers are planted directly from them, to protect the sprouts from injury. The hardened shoots are said to be found more healthy, vigorous, and productive, and much more capable of resisting disease, than those grown from eyes which have lain dormant through the Winter. The crop is also forwarded so that the potatoes may be dug before the time when the disease usually makes its appearance. M. Gauthier states that when tubers are to be cut for planting, it increases their vigor and productiveness to cut them in Autumn, three or four weeks after digging, instead of at the time of planting.—We give the above for what it is worth.

How to Feed out Roots.

As root culture is greatly upon the increase in this country, and many are trying their first experiments with them this Winter, we will drop a few hints upon their economical use. Nothing is more common than for beginners in the business to confine an animal entirely to the use of roots. They go upon the principle that you can not have too much of a good thing, and give one to three bushels of turnips in a day. The change in diet probably sets the animal to scouring, and turnips are voted a humbug, when the humbug lies altogether in the ignorance of the feeder. All animals like a variety of food in their diet, and hay or straw should always form a part of the daily fodder, no matter what else may be added. This course should be followed, whether we are seeking to make milk or beef, or merely to keep an animal in thriving condition. In fattening a bullock, a bushel or so a day may be given, according to size, making out the rest of the feed in hay, with some kind of grain or meal. In feeding milch cows, the same quantity may be given, mixing the sliced roots with the cut hay at three meals daily. The meal will add more to the quality than to the quantity of the milk. Stock cattle with plenty of hay and roots will not need meal to keep them thriving. A good root cutter is indispensable in feeding out roots.

Then, as to the order in which the various roots should be used up, we always begin with the white, or soft turnips. These grow quickly, and remain in their best condition but a few weeks. By the first of January they begin to sprout, and lose something of their value. The ruta bagas and white French turnips keep well through the Winter, and may be used at any time; carrots and sugar beets may be used as soon as they are dug. The mangel wurzel needs to undergo a curing process, and should not be used before February. They are excellent keepers, and will hold on until June. If fed out the first part of the season, they make the bowels loose, and lead to a false estimate of their value. Analysis shows that the mangel has nearly twice the nutritive matter contained in the Swedish turnip, and experiments in feeding confirm the results of the laboratory. They will yield from fifty to a hundred per cent more in quantity, under ordinary circumstances, and are much the more profitable root to raise. We find our root crops enlarging from year to year, and that, perhaps is the best testimony we can give to their value. Our list this year embraces several varieties of the white turnips—rock turnips and ruta bagas—yellow and white carrots, sugar beets and mangel wurzel. *

Insurance on Farm Animals.

In response to the article on this subject, page 268, of September *Agriculturist*, Mr. Jno. S. Williams, of Bucks Co., Pa., writes us that in that County alone there are at least four associations which insure animals against death by disease or accident. Part of these societies have been in operation for some ten years past, and have been found to answer an admirable purpose. Mr. W. sends us the Constitution and By-Laws of the "Lahaska Insurance Company," the head-quarters of which are at Doylestown, Pa. The Company is a mutual one, insuring buildings, personal property, and animals, against fire, and also the "Lives of Domestic Animals from Disease or Accident." The following extract relates to losses of animals by death.

"In case of the death by disease or accident of any animal insured in the Life Department, the owner shall give immediate notice in writing to the Secretary; if the Secretary shall deem it necessary to make an investigation, he shall attend to it himself, or notify one or more of the Directors or Surveyors, whose duty it shall be to attend thereto, and examine into the facts of the case and report the same without delay to the Board of Directors or the Executive Committee. If all is right the whole insurance will be paid. This being a life insurance, no animal will be paid for until it is dead; but when an animal becomes injured by disease or accident so that there is no probability of its living, or has become entirely worthless and is likely to remain so, or has some very dangerous contagious disease, the insured may report the case to the Secretary, who may appoint an Investigating Committee, (as herein-before specified,) and said Committee shall have discretionary power in such cases, and if they shall be entirely satisfied, they may direct to slay the animal, and the Company will pay the insurance."

The following are the annual rates of insurance on each one hundred dollars of valuation, against death by disease or accident:

No. 1.—On Horses, Mules, and Cattle, ordinary risk.	\$1.50
No. 2.—On Stud Horses or Jacks.	\$2.00
No. 3.—On Stage Horses.	\$2.00
No. 4.—On Livery Horses.	\$2.00
No. 5.—On Drove Horses within 6 months after coming in.	\$2.00
No. 6.—On Canal Horses, or Mules.	\$2.50
One per cent additional for risk against Foaling or Castrating.	

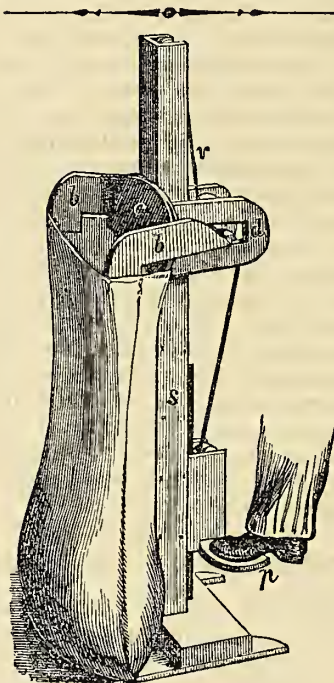
Care of Cows before Calving.

The following extract from a Prize Essay on the "Rearing of Calves," by Thomas Bowick, published in the Journal of the Royal Agricultural Society (Eng.), is applicable to all latitudes.

"The health and condition of the cow before calving, greatly influence subsequent results. A late milked, lean, raking, ill-cared for beast has oftentimes an easier parturition than those that are better furnished in these respects. But her after milking has a tale to tell of neglect somewhere; and the scraggy, "set" condition of the calf throughout its after course, often arises more from this cause than from any other. Hence, we would say, dry the cow a fair time before calving, and see that she has something better than barley-straw to live on, else the calf and its owner will assuredly lose by it. But what is regarded as a fair amount of time for being dry? If a cow brings her first calf when from two to three years old—which the majority probably do, though all will admit that it is too early—we should not care to milk her more than five or six months after calving. By this means she will grow and increase in size and value before her second calf. But a cow from the fourth to the eighth year, if in good condition, need not be dry more than six weeks or two months before calving; i.e. if fed with a thoroughly liberal hand

throughout the year. If more sparingly fed, or if the cow exceeds the latter age, then we should prefer her being dry three months before calving. But, of course, there are exceptions to be met with, which can not come under any general rule, such as the case of animals whose flow of milk is so strong as to continue almost up to the time when a new lacteal secretion commences."

We must add here a point that we have discussed at length in a former volume of the *American Agriculturist*, viz., that a breeding cow's milk is not fit food for young children; we always keep a "farrow cow" to supply milk for them.



A Bag Holder.

The boys at least, and farmers who have no boys, will be interested in the picture here shown. It is a sketch of an implement recently received at our office from a Western Yankee, (Mr. A. M. Olds, of St. Croix Co., Wis.) The apparatus is designed to distend the mouth and at the same time hold up a bag while being filled with grain. It is difficult to show its working parts. By pressing down the foot pedal, *p*, the two side boards, *b, b*, are drawn back. In the outer ends of each of these boards is a little iron spur. The back board, *c*, projects below the side board into the bag, and on the back of this board (*c*) are two other spurs. When the side boards are drawn back, the mouth of the bag is placed over the four spurs, and then on lifting the foot, the side boards shoot forward, pushing the mouth of the bag open, and holding it there. The small frame moves up and down on the shaft, *s*, being held up by the cord, *v*, which runs over a pulley at the top of *s*, and is attached to a weight running down its center. This ingenious arrangement keeps the bag upright, whether long or short, as the grain poured in brings the bottom down to the floor, while the weight and cord keep the top raised up to the full height of the bag. After a few minutes practice we found the apparatus quite convenient. It dispenses entirely with a boy or man to hold open the bag, while the mouth is readily opened wider than can be done by hand. As above hinted, the boys will be pleased with this relief to them, and a man working alone would certainly find it convenient. It will doubtless pay well for the small interest on its cost. Not having consulted with the inventor, we do not know

the price, nor whether the implements are yet made for sale. It will doubtless be advertised.

Feeding Grain to Colts.

A subscriber inquires of the *American Agriculturist* whether it is advisable to feed oats to colts in Winter—some of his neighbors think the practice injurious. It is objected that grain of any kind is too stimulating for young animals, and that they will grow up more hardy if kept on scanty feed. We regard this as an error. The usual food of an animal, including grain, is not "stimulating" in the same sense as the spices and drinks used by man; were that the case, there would be no question as to the impropriety of allowing grain to young horses or other animals. Grain contains more nutriment than the same bulk of straw or hay. If fed in large quantity to one not worked sufficiently to keep the digestive powers very active, the stomach and other organs will be impaired, and the health of the animal will be injured. But given judiciously, grain promotes the growth and strength of horses either young or old. The proper way to harden an animal, is, not to cramp the growth of its organs, but to develop them to the fullest extent, and nutritious food is indispensable to this end. It is the practice of some of the best horsemen to allow a small quantity of oats or corn to colts, as soon as they will eat them, say from a quart to two quarts per day during the first Winter, and a more liberal allowance the following year, increasing the quantity gradually. Oats are preferable, as corn from its oily nature predisposes to inflammatory diseases. Herbert says this treatment will amply repay the owner in the quality of bone and muscle which the animal will form, and in the increased size, beauty, and stamina, which will be his characteristics when he is growing toward maturity. He gives his opinion that a colt cared for in this way, will be, at two years old, the equal of any three-year-old, allowed to take his chance without any food but that furnished by his dam from her ordinary commons, or picked up by himself, in his Summer pasture or Winter straw-yard.

Truant Bees—Cross Breeds.

Mr. M. Quinby, while at the office of the *American Agriculturist* recently, related a circumstance, showing the distance to which bees wander from the hive. Last year he procured some of the Italian Bees. A bee-keeper situated 2½ miles distant, informed Mr. Quinby that he had the Italian variety also, without buying it. Mr. Quinby examined the hives and found several well marked specimens showing a decided mixture of the Italian blood. Subsequently another bee-keeper at about the same distance in another direction found a cross of the Italian variety had been effected in one of his hives. The Italian drone and the queen of the common species had met, and the progeny was of course a hybrid of the two. The question remains, was it the queen or the drone that made such an extended excursion—or did they meet half way? And further: How far distant must any variety be kept from all others, to absolutely prevent mixing?

An ignorant man, recovering from sickness, was told that he might have a little animal food. "Humph!" said he, "I could eat gruel, but I can not stand hay and oats."

Are the Animals Comfortable?

Fretful men are seldom fat. Irritation and annoyance interfere with both appetite and digestion. It is your man of comfortable circumstances and easy disposition, that increases in bulk. The same is true of animals. A fiery, excitable beast is fattened with difficulty, and frequent annoyance of any kind will seriously interfere with the thrift of stock. Profit as well as kindness demands that the comfort of animals should be studied. Let us note a few items which are often neglected.

Regularity in feeding is of the first importance. An animal fed at irregular periods will often be hungry, and will constantly be on the lookout for a supply; this causes continual uneasiness. Where the hour for feeding is fixed, and punctually observed, the appetite is regulated accordingly; the food is taken with a relish, and when it is disposed of, there is no further anxiety until the next feeding time comes around.

Keep animals cleanly. All are so naturally. Swine roll in the mud, and hens wallow in dust to clear themselves of vermin; they only choose the least of two evils. In Switzerland it is said that the hair of cows is kept as well combed and dressed as that of the women, and the animals themselves learn carefully to avoid all soiling of their coats. This is going to one extreme; but the opposite one, the entire neglect which allows the hind quarters of animals in the stable to become coated with manure, is a sin against common decency. Cleanliness is essential to health. The skin performs some of the most important functions of the body. Keep it in good order by frequent carding and brushing. A coarse card is better for this purpose than a stiff curry-comb. Much of the labor may be saved by supplying the stalls with plenty of litter. A good bed of straw will also aid in keeping the animal comfortably warm. The importance of this has too often been urged in the *Agriculturist* to need repetition here.

Continued confinement is irksome to all living creatures. Stock of every kind should be allowed to spend a little time in the yards during the warmest part of every pleasant day. Sunshine is stimulating to all natural functions, and is necessary to full health. Finally, keep the animals in good humor by keeping good-natured yourself. A "jolly" fat man will be much more likely to have jolly fat animals, than one who can not pass through the yard without venting his spleen by a kick or a curse upon some unoffending brute.

Feeding Boxes Better than Racks.

Horses do not naturally gather their food from trees, why then should they be compelled in Winter to take it from a rack over-head? Every mouthful requires the animal to assume an unnatural position, which with young horses particularly, must interfere with the proper development of the muscles of the neck, and with the graceful carriage of the head. May not the awkward manner in which many horses thrust their noses forward and upward, be attributed to the force of habit acquired in feeding from a high rack? Another serious objection to racks is the danger from the seeds, dust, etc., falling into the eyes of the animal; and further, all the effluvia of the stable, the vapors from liquid and solid excrements, the exhalations from the skin, and from the lungs, pass upward, and are to some extent absorbed by the hay—an addition

neither savory, nor healthful. The feed box may be made equally convenient with the rack, and is open to none of the above objections. It need not be large, and if the bottom be made of slats, all rejected fodder can be easily removed. A closed box on one side for feeding grain will be needed if the bottom of the main box be left open. The above may seem an unimportant matter to many, but every thing is worthy of attention which can add to the comfort and health of the noblest domestic animal.

Sheep Wanted!

For some weeks past while on our usual note-taking tours in the City Live Stock Markets, we have found an increasing number of inquirers after "store ewes," that is, those not fat enough to make good mutton. Some of the flocks brought in, have been sold out by the entire lot at \$4 each, though the majority of this class sell at about \$3 per head. The demand is evidently quite beyond the present supply. Fat sheep are of course higher, but not relatively so. Common wool has advanced 12 to 15 cents per pound within two months, and the prospect of continued high prices, especially if the war lasts, has awakened sheep graziers to the fact that there is really a scarcity of sheep; and those who were disheartened by the temporary low price of wool last Spring, are now making an effort to increase their flocks. Owing to the large demand for army clothes, socks, blankets, etc., the price of common wool has advanced relatively more than the finer grades, and as coarse woolled sheep furnish large carcasses for the butcher, this class is in greater request. The middle wool, such as the South Downs, are probably the most profitable in the long run, though the Leicesters or long woolled breeds are just now preferred. What we wish now to urge upon the readers of the *American Agriculturist* is that their stock of sheep at present on hand receive the best attention. As the pastures fail, and they come to the dry pickings of the yard, give them a daily "bite" of turnips or carrots; or in the absence of roots let them have a little bran or ship stuff, or corn meal, or other food. Look out in time for a first rate male to be turned in about the middle of December. Randall prescribes 30 ewes for one yearling ram; 40 to 50 for a two-year old, and 50 to 60 for a three-year old. Taking the lowest number, 30, the owner of a flock of sheep can well afford to pay \$25 or \$30 a season for the use of a buck which will produce lambs that for the same care and food will make sheep worth \$3 a head more than common grades. We this week saw 4 Leicester sheep from Ohio sold for mutton at \$42, or \$10.50 each. Live weight 200 lbs.

For the American Agriculturist.

Improved Sheep—Hint to Breeders.

The increased demand and better prices for wool now realized, will probably give a needed impetus to sheep raising. It is believed that it will pay to keep ten times the number of sheep now raised in this country, even if the demand for wool should be inactive, and prices rule low. Good mutton will always be wanted, and the demand will increase as the quality improves. As yet, one half our people do not know the excellence of this meat, from never having tasted a really good article. At present many are deterred from breeding better sheep, by the apparently high prices at which improved animals are held. We believe it would be a paying operation to buy thorough-bred stock, even at

the rates demanded, but while the community of farmers generally do not judge so, the improvement of our flocks will advance slowly. Grade animals will be employed at first, and progress will be made by degrees.

Would it not be well for the breeders of this country to institute the practice of annual ram-lettings as conducted in England. Many would undoubtedly pay well for the use of an animal by way of experiment, who could not be induced to purchase; and it is quite certain that having once seen the good effects of breeding from improved stock, they would soon be ready buyers. The season for introducing the male among the ewes is at hand, and it is now too late to arrange for public ram-lettings, but would it not be well for breeders to give ample facilities for private arrangements by which the use of some of their improved animals could be secured the present season? There need be no fear that good stock will thus become too common to be remunerative. In England, where breeding of blooded stock has been advancing for scores of years, the demand and the prices are better than ever. A wider field is open in this country. Who will occupy it to the best advantage? PROGRESS.

For the American Agriculturist.

A Plea for the Goat.

Allow me to call the attention of the readers of the *American Agriculturist* to the just claims of a domestic animal whose valuable qualities, in my opinion, have been too generally passed by in favor of other and more costly occupants of the farm yard—I allude to the Goat.

In the most ancient of histories we invariably find goats mentioned in conjunction with sheep, as constituting the chief wealth of the Patriarchs, and we read of their flesh being frequently offered to guests as a choice morsel, and occupying a prominent place at "high festivals."

In these modern times it is also certain that large flocks are raised in many countries of Europe and Asia. Is there any peculiarity of soil or climate on this Continent to prevent our doing so also? Would not the possession of this animal, by a cottager or poor man, who has neither the facility nor means to keep a cow, be a great acquisition?

I have one which yields two quarts of milk daily, far richer in cream than that of the cow—no mean addition, I think, to the scant supply of food for the young family of a laboring man.

Its flesh is sweet and wholesome, and although it can not compete with the sheep in the value of its outer clothing, yet I believe its hair is used to some extent in manufactures, and its skin in the shape of leather, is far superior to that of the sheep, and brings a much higher price.

It is hardy in constitution, and by no means dainty in its food, thankfully receiving any thing you may offer, and nothing comes amiss. It will quietly suffer itself to be tied to a stake and feed by the road side. It is, when treated kindly, gentle in disposition, and dearly loves to romp with the children. It will live on land of no value in an agricultural view, and will courageously face and beat off the fiercest dog; and there is a tradition that when kept around a stable, it banishes therefrom many of the diseases incidental to the horse.

As a friend to the goat, I see all merit, and no demerit; can any thing be shown and proved against it—or has it been neglected hitherto like another despised favorite of mine, the Ass, solely on account of its unpretending modesty, its patient docility and lowly obscurity? H. G. T.

Is Curing Pork Profitable?

The majority of pork raisers sell their fattened swine, either on foot, or in the carcase after slaughtering. The following calculations made by Hiram Olmstead, in an Essay on "Practical Farming as connected with the Butter Dairy," if correct, prove that it is more profitable to cure and pack pork before marketing. He estimates pork as worth \$7 per hundred, in carcase, and \$19 per barrel when packed; cured hams 12½ cents, shoulders 10 cents, and lard 12½ cents per pound; and says: "Every ten pounds of pork packed, will weigh out eleven after it is salted. Hams and shoulders will fall short about one-eighth, after they are smoked. Cut up the hog in the following manner. Split the hog through the back bone, take out the lard, cut off the head, cut out the hams and shoulders, and cut the side meat into strips, the way the ribs run, through the back bone. One hundred and eighty five pounds of side meat will make a barrel of mess pork, and will weigh out after it is salted over 200 pounds. Dissolve saltpeter and bathe the hams and shoulders; rub on all the fine salt that will stick to them, and keep them covered with salt two weeks. If large, they will need to lay three weeks. Wash off the salt and smoke. The coarse meat will be the legs, head, and the rib, on the inside of the shoulder. At the above prices and estimates, four hogs, weighing fifteen hundred, would stand thus:

5 barrels pork, 185 lbs. each, 925 lbs., at \$19.00 per bbl.	\$95.00
100 pounds lard, less 5 lbs., 95 lbs., at 12½ per lb.	11.87
200 do. ham, less ¼ lb., 175 lbs., at 12½ per lb.	21.88
144 do. shoulders, less ¼ lb., 136 lbs., at 10 per lb.	13.60
131 lb. coarse meat, at 2½	3.27
Total.....	\$144.62
Less five packing barrels at \$1.12.....	\$5.62
Less four bushels salt and saltpeter.....	3.50
Value of 1,500 lbs. pork, packed.....	\$135.50
Value of 1,500 lbs. sold, at \$7.....	105.00
Profit for packing.....	\$30.50

The value of the pork at these prices is nine cents per pound, after it is packed."

We are not certain about these figures. What say practical men among the readers of the *American Agriculturist*. The question is open for discussion by those experienced in the business.

Is Feeding Grain Better than Selling it?

"A bird in the hand is worth two in the bush," is not always true—for instance, if the bird in the bush have a nest there. Acting upon the teaching of the above proverb, cultivators have to a very large extent sold their crops rather than fed them out on the farm. Grain threshed and sold, brings the ready cash, and it is fed grudgingly, if at all, to stock. There may be times when the prices of cattle, sheep, and hogs are proportionally lower than the price of grain, so that there is apparently a loss in converting rye, oats, and corn, into beef, pork and mutton, out it may be doubted whether there will not always be gain enough in the quality of the manure from grain fed animals, to overbalance this apparent loss. Carefully conducted experiments have proved conclusively that the quality of manure depends very greatly upon the richness of the food consumed. An illustration of this fact was communicated to the New-England Farmer, by Hon. F. H. Holbrook, to which we will call the attention of the readers of the *American Agriculturist*. He says:

"How true is the remark of Mr. Coke, late Earl of Leicester, that the value of farm-yard manure is in proportion to what it is made of. If cattle eat straw alone, the dung is straw alone; the cattle arc straw, the farm is straw, and the farmer is straw—they are all straw together.

Not long ago I had four cows come up to the stable in the Fall, which I thought might yield a good supply of milk through the Winter, if well fed. I also had four other animals, cows and heifers, which were not expected to give much milk until the following grass season. The first four were tied in the stable, side by side, and received each, in addition to hay and stalks, four quarts of small potatoes each morning, and two quarts of corn and oatmeal each evening, through the Winter. As we expected, they gave a good mess of milk, and came out well in the Spring. The manure of those four cows was thrown out of a stable window under the cattle-shed, by itself. The other four animals were tied in the same stable, next to the first four, and received only hay and corn fodder. Their manure was thrown out by itself at the next stable window, and under the same shed, so that the two heaps lay side by side. The heap that was made by the four cows that were daily messed with potatoes and meal, kept hot and smoking all Winter, and was wholly free from frost. The heap made by the other animals that had only hay and stalks, showed no signs of fermentation, and was somewhat frozen. Observing this difference from time to time, curiosity prompted me in the Spring to apply those two heaps of manure separately, but in equal quantities, side by side, on a piece of corn ground. The superiority of the corn crop where the manure from the messed cattle was applied, over that where the other heap was spread, was quite apparent and striking, and called my attention more particularly than it was ever before directed, to the importance of feeding out our best or richest products, if we would have the best kind of manure for our lands, and large crops from them."

For the *American Agriculturist*.

Guess Work in Farming—Account Books—Platform Scales.

MR. EDITOR:—There is too much "guess work" on the farm. Not one farmer in ten can tell exactly how many acres of corn he raised last Summer, nor precisely how many bushels there were, nor what the crops cost him. He "calculates" there were about twelve acres perhaps, and he "reckons" he had somewhere in the neighborhood of three hundred and fifty bushels; some of it he fed out in the ear to the hogs, and some he took to mill; he "didn't keep no account." Many a man finds himself coming out behind his expenses at the end of the year, when interest day comes around, but he does not know where the trouble is. He has raised wheat and oats, and cattle and sheep, and thinks he sold them at good prices, but there's a great leak *somewhere*. His ship is sinking, and he does not know which plank is rotten.

When a merchant is selling a piece of cloth, he looks at the cost mark, before he will state the lowest price, and then he is careful to measure the number of yards before making out the bill. He also wants to be satisfied that the cash will be forthcoming in due time, before he delivers the goods. But the farmer too often does no such thing. His first transactions are with his fields. He carts out a lot of manure, requiring considerable labor. He sows some seed, cultivates the crop with a good many days' works, and receives a quantity of grain. He does not know its cost, and can not therefore tell whether the field with which he has been dealing has made him a fair return, neither can he safely fix a price on the crop. If an ox is fattened, too

often no account is kept of the feed, and more careless still, the animal is sold on the foot, his weight being *estimated*, and the price fixed accordingly. The buyer has the advantage of long every day practice, and can much better judge of the probable weight, than the farmer can guess at it.

The whole system is wrong. Every part of farm business should be based on facts and figures, measure and weight. A set of account books in the house and a platform scale for weighing at the barn should be part of the farmer's fixtures.

The latter article may be dispensed with on small farms, but any one who raises a dozen head of cattle per year, will find use enough for the scales to handsomely pay the interest on their cost. The amount of food given to each animal can then be accurately known, the creature can be weighed every month or oftener, and the food regulated accordingly; and when the buyer comes, the farmer will know what to say, without a long spell of whittling, or a final guess at the right price. JONATHAN.

Balance the Accounts Now.

An editor, who unfortunately does business on the credit system, and is therefore compelled to keep a standing dunning notice, unpleasant to both himself and his readers, thus logically nudges his readers: "We don't want money desperately bad, of course not, but our creditors do; and no doubt they owe *you*. Now, you pay us, we'll pay them, and they'll pay you. We shall all then feel better to begin the year, and no one will be the poorer. Let us begin square all round." This is not bad advice for others than delinquent subscribers.

Now is the time to do it. Close up the year by settling with everybody. Pay the butcher, shoemaker, blacksmith, doctor, minister, everybody. Has there been an exchange of labor, of teams, seeds, implements, etc., among neighbors, and the accounts left unbalanced? Before the New-Year comes in, let them be adjusted. If impossible to get the ring of creditors broken into, at least let there be a looking over of accounts, and the actual balance be ascertained. One can meet his neighbors with a better countenance, if the actual indebtedness has been agreed upon, and acknowledged, than when there is an imaginary large debt somewhere concealed in the long "running account." "Short settlements make long friends," is a good old proverb. A man should know, at least once a year, precisely how he stands with the world. If he is doing well, the knowledge will comfort him; if not, it will rouse him to renewed exertion, make him more prudent and cautious, and enable him to provide against emergencies.

Fuel—A Hint for December.

Now is the time to go into the wood-lot, and gather up every fallen limb, every pile of chips made in recent choppings, all heaps of undecayed bark, and whatever else is worth saving; pick these all up and cart them to the woodshed. Do this work now, before the snow falls and covers up these things and hastens their decay. If not needed by yourself, invite some poorer neighbor to go and help himself. This will make his hearth-stone glad in the dark days coming—and will it not make your own more cheery?

Humbugs in the City—Warning to Strangers.

A few days since a stranger called at the office of the *American Agriculturist* to ask advice. He had just been swindled at an auction sale. His story was a common one. While passing along the street he heard the cry "going, going, going!" and on walking into a store where the sale was proceeding, found they were selling watches. Several were knocked off at surprisingly low prices, and carried out by the "stool pigeons," who were in considerable numbers, dressed and appearing like merchants, farmers, etc. As they passed out, they exchanged places with another set in a similar establishment near at hand, and the latter class came in and kept up the bidding in presence of our stranger. But he was too suspicious to bid, knowing that "all is not gold, that glitters." Presently one of the company bid off a watch, but appearing to suddenly remember that his money was at the hotel, and to be in great fear that he should lose the benefit of a splendid purchase, he turned to the stranger, and told him that if he would advance the money to pay for it, \$14, he, the purchaser, would give him ten dollars, as soon as he could get the money from his hotel, as the watch was gold and worth much more than the amount for which it sold, and they would not let him have it without the cash. The stranger handed over the \$14, and retained the watch as security, while the purchaser went to "his hotel." After he had gone, those present told the stranger he had been swindled, that the purchaser would never return, and advised him to put up the watch for sale again, and get his money back, assuring him it would probably bring much more than the sum lent, and thus he could make a profit. It was accordingly handed over to the auctioneer, and in a twinkling was knocked down at \$5, which was handed to the stranger. Upon his remonstrating, he was informed that the sale was over, and he might as well clear out. We directed him to the Mayor's office, where he made his complaint, but as he had consented to the second sale, the only course left was for him to prefer a charge of swindling against the parties, and remain in the City until it could be brought to trial, which would require several days, while it was necessary for him to return to his distant home. So the swindlers escaped punishment, and the sufferer left the City, partly initiated into the mysteries of a "Mock Auction Shop."

This is a specimen of transactions that occur in this City many times a day. The sufferers are usually situated as this stranger was, being unable to remain and prosecute, and the authorities can not legally interfere without sufficient evidence to make out a case.

It is doubtful whether a regular reader of the *Agriculturist* would have been humbugged in this manner, as we have frequently exposed these Mock Auctions. Repeated cautions are necessary, however, for the swindlers of this sort abound, and have many cunning plans to entrap the unwary. Remember when visiting any City never to enter an auction store unless you have first been assured of its good character by reliable parties. And furthermore, trust no stranger to handle your money, or to advise you how to dispose of it. Before leaving home, ascertain from your merchant or other neighbor the name of some reliable person to whom you can refer here, and you will always find a willingness on the part of our cit-

izens to afford all possible protection against imposition. We have saved many thousands of dollars to our readers, who have come here in answer to advertisements for various business enterprises, but it is often impossible for us to find the time to attend to all who call. Time is money, and there are only 24 to 26 working days in a month.

For the *American Agriculturist*.

How to Make Luxuries Cheap.

THE CITY MILLIONAIRE AND THE COUNTY LAWYER.

Bullion, up in his brown stone mansion in Fifth Avenue, when he makes a feast, and does his very best, must have a few dozen Duchesse pears at about five dollars a dozen, and sundry bunches of Black Hamburgs, and the Muscats, at one dollar a pound and upward. The florist is called upon for bouquets, and the camellias, roses, and other flowers in mid-winter, smell quite as much of the gold, as the fruits taste of that article. It makes even Bullion sweat when he comes to look over and settle the bills for that magnificent entertainment.

A Christmas dinner is given out in the country by a professional man of less than a tithe of Bullion's means, and it has more than Bullion's bounty; and the beauty of the whole is, that every staple article in the whole bill of fare is a home product. The turkey that crowns the table, a gobler of the present season, weighing twenty pounds, has been raised by the master of the feast, and fattened on corn, the growth of his own plantation. The same may be said of the chickens and ducks that make their appearance on other parts of the table. There is not a vegetable, from the potatoes to the celery, but grew in his own garden. The wheaten loaf is from grain that grew in his fields, and that peculiar golden hue of the butter you see, must have come from the Alderney heifers that the owner exhibited at the fair. And as the dessert comes in, you see the *Beurre Diel*, and the *Glout Moreau* pears are from trees that he planted only five years ago. The grapes are from the cold vinery, and the flowers from the conservatory, where the family have a small flower garden with pleasant Summer heat all Winter long. He lives like a nabob, and supplies at least nine-tenths of his table expenses from his little farm of less than twenty acres. His professional income is less than three thousand a year, and yet he has more luxuries upon his table and entertains his friends in better style, than Bullion with his ten thousand a year and ten African boarders in the basement. He has hosts of friends, and they are fond of visiting him. His fruits are excellent, and his discourse upon all the mysteries of the vegetable garden and the fruit yard, are better still.

All these luxuries that have become his every day comforts, are the result of a little skill in cultivating the earth, and a little oversight of the daily work upon the farm and in the garden. The hours devoted to these pursuits are not misused from his professional work. They rather invigorate him, and make him a better lawyer than he would be if he were confined wholly to his office.

He has an intelligent faith in his horticultural operations, and is a great deal more sure of his case when he plants a fruit tree, than when he pleads in court. A tree planted is not abandoned to its fate, but followed up with generous culture, until it bears bountifully. Dwarf pears are a success in his grounds, and grapes out of

doors and under glass are daily food from September to January. He has fruit of some kind the year round, and in great abundance.

But you will ask "how does he pay for it?" Mainly by working the twenty acres of land, and selling the surplus products in the best markets. The vegetables go to the village which is handy, and the fruits to the City which is but three hours distant. There is a Yankee thrift, (he is one of them) and management about every thing, and the luxuries of his table which would cost Bullion two thousand a year, cost him nothing, he claims. He sells enough from his place to pay for all his labor and manure, and for the interest on his investment. The rest he thinks he can afford to enjoy with his family and friends. We can not all imitate his example, but we can all plant a few more trees and have cheap luxuries.

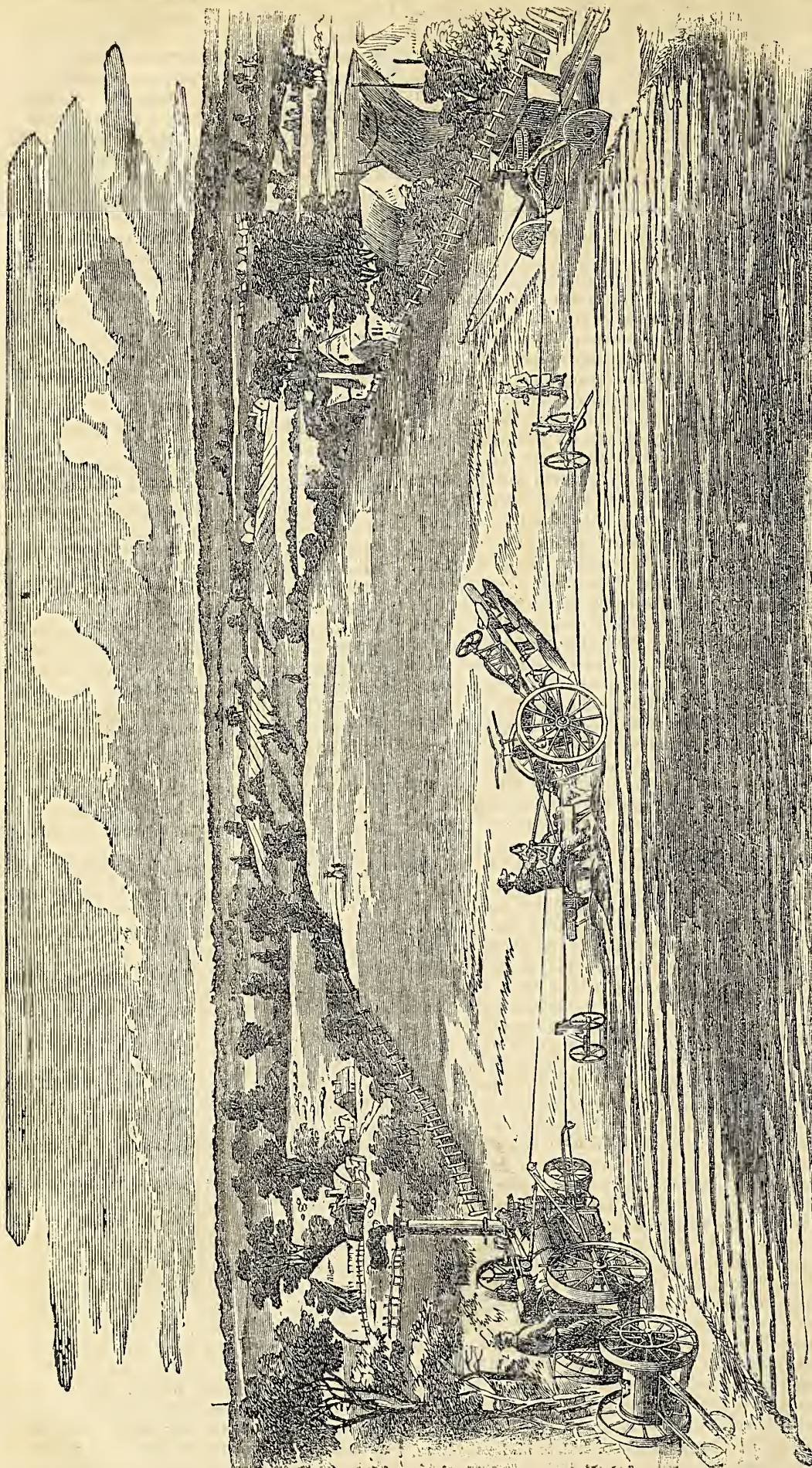
CONNECTICUT.

Readings and Doings in War Times.

What shall we read in these days of wars and rumors of wars? The newspaper, of course; but not that only. We pity the man who does not feel a deep, an all-absorbing interest in the welfare of his country, in this hour of strife and peril. But the danger is, that this interest will become excessive and morbid. The danger is, that one's time and thoughts will be so engrossed with this subject, that he will become unfitted for the ordinary duties of life. When the fresh daily paper comes in, the latest telegraphic dispatches must be read, of course; then the older "specials"; then the editorials; then the comments of cotemporary papers; then the opinions of foreign journals. And so, we read on and on, till our eyes ache, and our heart aches, and our nerves are unstrung, and we are unfit for anything, and can do nothing but wait for the next paper, only to go through the same round of excitement.

Now, let us protest against this immoderate "bolting" of newspapers. Sad as the times are, and deeply as all must feel concerned in the fate of the country, it becomes us to keep self-controlled. If duty does not call us personally to the field of battle, there is something for us to do at home. We have our families to support, our children to educate, our schools and churches to maintain with vigor. The great interests of morality and social order should be watched over now with special care. The springs of virtue and law and intelligence should be kept open, and guarded with sleepless vigilance. And to this end, it is of the highest importance, to keep our minds calm and well poised. Nor let it be forgotten, that in all such periods of excitement there is increased liability to sudden attacks of heart disease and apoplexy.

Let us read something beside the daily news paper, and think and talk of something beside the last sensation dispatches. And, (as just now we are editorially addressing farmers,) why not read our agricultural and horticultural papers and books systematically, attend regularly to our crops and stock and whatever concerns us as tillers of the soil. Let us look after our children's education and their morals. See too that that no important interest of society suffers from neglect. By so keeping our hearts calm, by maintaining every source of virtue and principle in the community, we shall be best able personally to go through this fiery trial, and our country will be best able to meet any demands that may be made upon its courage or its resources. As individuals we have each a part to perform in this eventful period of our history.



Fowler's Steam Plow at Work.

The final results of the thorough and long continued trials of Steam Plows, made under the auspices of the Royal Agricultural Society during the past Summer, establish two points:

(1) That sufficient advance has already been made in the construction of steam engines and plows, to settle the question of economy decidedly in favor of Steam power over horse power, in the

breaking up and preparation of soils for seeding—not in all cases, but for a considerable proportion of all arable land. (2) That while of twelve or fifteen different methods before the public, Mr. Fowler and Mr. Howard are at present the only real competitors, Mr. Fowler has now the best of the race. At the recent trials in England, Mr. Fowler not only carried off the principal prizes offered by the Royal Agricultural Society, but he also won the highest approbation of the thousands of practical cultivators who gathered at the exhibition. These trials were not confined to a few hours' work on a limited plot of favorable land, but they extended over more than a week's time and embraced two large plots of 32 and 50 acres, affording a marked variety of soils and circumstances.

The Judges' decision was to the effect that (1) "Fowler's is the best application of Steam-power to the cultivation of the soil, before the public, and the most useful one upon the generality of soils, in its adaptation to the ordinary portable engine. (2) That Howard's is distinguished as a good apparatus attached to the ordinary farm engine, upon light descriptions of soils, and as such it will be a most popular machine." The feature of Howard's apparatus, viz: its capability of being attached to ordinary portable engines and its adaptability to light lands, led us in the September *Agriculturist*, where we exhibited a sketch of Howard's plow at work, to give the preference to his system, especially for the light land of our Western prairies, which are to be the great field of operations for the Steam plow in this country. Subsequent examination of the two systems, and especially of the results of the Leeds Show, have led us to modify the opinion previously held. We are further convinced that the Steam plow is by no means to be confined entirely to the broad prairies of the West, but it will be found well adapted even to the small field system of the older States. Steam power, wherever applicable, is far cheaper than that obtained from the muscles of animals, and the heavier the land, the greater will be the gain from the application of steam. And if, as was proved at Leeds, a strong clay soil can be thoroughly broken with Fowler's apparatus, for \$1 an acre, when the same work would cost fully \$2.50 if done by horse power, the subject is one of vast importance to American farmers generally. In England it is estimated that the use of Steam plows upon only three-tenths of the cultivated soil, will dispense with the use of 240,000 horses, saving their cost, their feed, and their attendance. Their work will be done by the coals that now lie dormant under the surface.—We are happy to announce that Mr. Fowler has sent one of his Steam plows to this country under the care of his agent, Mr. R. W. Eddison, who is taking measures to exhibit its practical

working here. We have been in correspondence with Mr. E., who is now at Philadelphia, and had expected ere this to witness the apparatus in actual operation, but, unfor-

unately, the sickness of his chief engineer or plowman, has deprived us of the opportunity thus far. The approach of freezing weather may prevent much being done this year, but during our next volume we shall be able to furnish full and definite information upon the whole subject.

The accompanying illustration will give the reader a general understanding of the operation of Fowler's Steam plow. The main features are: the *Portable Steam Engine* on the left; the *plows* in the center; and the *anchor* at the right. We reserve a particular description of separate parts for future illustration on a larger scale. The *Engine* is placed on wheels and moves along the head-land, propelled by its own power, at the will of the operator. The guide wheels enable the operator to move the engine in any desired direction. From a drum driven by the engine, one wire rope extends to the plow and one to the anchor on the other side of the field. The ropes coil around opposite sides of the drum, so that by reversing the motion of the drum the ropes may be alternately let out and drawn in. The *Anchor* is a loaded box on sharp edged wheels which cut into the soil. The rope pulley is connected with wheel work so as to move the anchor forward at each reversal of the plows. The *Plows* are arranged in two gangs, 3 or 4 in each, the mold-boards being half right and half left hand. The gangs are joined to an axle supported on wheels, and so arranged that the plowman by changing his position can elevate or depress either set of plows. If the field be wide so as to require long ropes, they are supported by *partners* to prevent dragging on the ground. Two of these are shown, one on the right, and one on the left of the plow. When used, boys are required to shift their positions as needed. The plows are set to cut furrows of any required depth. The engines are usually of 12-horse power, and the four plows can be moved somewhat rapidly backward and forward, even through heavy soil, the power being equal to three horses for each of four plows, or four horses for each of three plows. The engine, of course, does not tire out and require resting, nor is it affected by hot weather.—This general description is all that we have room for in this paper.

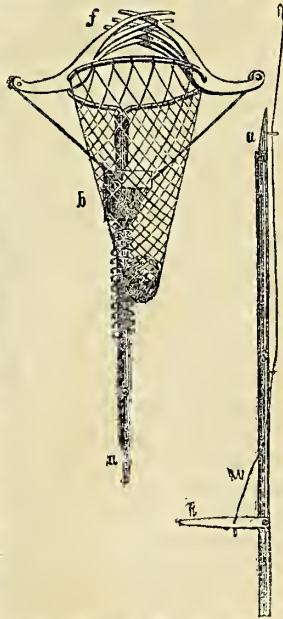
Keeping Apples—New Method.

Mr. M. R. Thompson of Mifflin Co., Pa., in a letter to the *American Agriculturist*, describes his method of keeping choice apples which appears to be worth noticing. He packs them in barrels or large boxes, surrounding each apple with common dry ground gypsum (plaster of Paris). This is readily done thus: Put into the bottom of the barrel, or box, an inch of the plaster and then a layer of apples, keeping them from contact with each other, and an inch from the side all round. Sift in more plaster to fill up the spaces and cover the whole nearly an inch. Then add another layer of apples and more plaster, and so on to the top. The plaster employed is, we suppose, the common ground plaster for fertilizing—not the calcined used for making casts, models, etc. The former is cheap in most parts of the country, costing from \$3 to \$10 a ton, according to the locality, distance from the quarries or seaboard. The present retail price in this City is about \$10 per ton. Of course the plaster is just as good for application to the field after being used during Winter for packing apples. The plan is worthy of trial at least, for it would appear reasonable that the fruit

thus surrounded with a compact mass of dry powder, should keep almost as well as if hermetically sealed. Mr. T. says he keeps pound pippins thus packed, in good order until the following June. We judge from a remark in his letter, that he does not store them in a cellar, but in any cool room of the dwelling or out-house. We are not certain whether the dry plaster would be a sufficient non-conductor to keep frost out, if exposed to severe cold—especially from the fruit near the outside of barrels.

An Unpatented Fruit Gatherer.

We have at our office a pretty fruit-gatherer made by Mr. A. M. Halstead, of Westchester Co., N. Y., who manufactures for such of his neighbors as desire them, but he disclaims any patent right, and offers to all the readers of the *American Agriculturist* the free privilege of making and using as many as they choose. Our artist has sketched the apparatus so plainly that little further description is needed. The staff is made in sections or joints. Two of the sections, *s, s*, are shown. They join together at *a, a*. The picking is done by two sets of fingers, *f*, which open and close up, like the clasping of the right and left hand. The motion is given by the handle *h*, which draws down the wire, *w*, that extends to the sliding block *b*. A spiral spring pushes the block upward which closes the fingers to grasp the fruit, and when pulled off it drops into the net work bag. The implement costs about \$1.75 when the fingers are made of iron, and \$2.50 if made of brass, as in the sample before us.



Improved Fruit Cellar.

A fruit cellar, owned by Mr. Andrew Campbell, of Monroe Co., N. Y., is described in the *Country Gentleman* by S. E. Todd, who recently visited it, as follows: A neat cellar, with water-lime bottom was first made; then it was ceiled up neatly and tight, on every side, and above and beneath also. A space of about six inches was left on the sides and bottom, between the ceiling and the stone walls and over the water-lime bottom, so that the air could circulate freely all around. Between the ceiling over-head, and the carriage floor, the space is filled with grouting or lime mortar. The windows to the cellar are double, that is one window in the wall, and one window in the ceiling; and either of them can be opened at pleasure, or the inside window can be closed, and the outside one opened; and thus a current of fresh air can pass entirely round between the walls. The entrance, also, is secured by double doors, one neatly fitted on each side of the jamb casings. The fruit is placed in shallow bins, one above the other, on each side of the cellar. By this arrangement,

all dampness is excluded, and fruit will keep much longer and better than in ordinary cellars.

For the *American Agriculturist*.

Grape Notes.

The Logan.—In response to inquiries about this new grape, the writer will state his experience with it the past two years at Clinton, Oneida Co., N. Y., a few miles from Utica. The vines have a western exposure, and do not get the sun's rays until one o'clock. They have blossomed and set their fruit well. The berries color about the same time with the Concords which have a better aspect. But when the Concords had become fully ripe, the Logans were not yet sweet; and to the last, they had a certain tang peculiar to an unripe grape. In short, to the taste of the writer, they were not quite equal to the Concord. Let it be remembered, however, that the Logans have an unfavorable situation, and that the above experience is that of only two seasons. They may prove better elsewhere.

Garrigues.—Not an inferior grape, by any means, though not entitled to the first rank. It looks like the Isabella, only the bunches are smaller. It ripens a week or so earlier. Whoever has but little room to spare, had better wait a little longer for something better.

Northern Muscadine.—This is too good to be discarded from the second class of grapes. Hardy, ripens with the Concord, is sweeter than that, and the amber-colored bunches, when thinned out, are quite handsome.

To Kalon.—From three years' experience with this, in the latitude of Albany, we are not inclined to speak very highly of it. Under common management, it bears but a moderate crop, and ripens its fruit no earlier than the Isabella. Yet what we do get, are first-rate. Bunches and berries large, nearly black, very sweet, buttery, luscious, tender. For southern N. Y., and the latitude of Pennsylvania and Ohio, we should think it would prove a valuable grape.

Rebecca.—It rises in our estimation every year. Here in Oneida Co., N. Y., it does not mildew at all, or at least, no more than the Isabella and Diana. One vine is on an open trellis in the garden, running north and south; another is on the south side of the dwelling, where it receives the direct rays of the sun. In both cases, the foliage remains fresh and green all Summer. It is hardy enough, when protected as all vines should be in Winter. It grows fast enough when once established; it bears abundantly; the berries are sufficiently large; they ripen before the Isabella, and when ripe, are not inferior to any grape grown in the open air—the Delaware not excepted. And the fruit has one other excellence: it is greenish white, and so deceives the birds and boys, while the Delawares and Concords close at hand will be stolen. It is an excellent keeper in Winter, in this respect excelling the Delaware. [As to the quality we quite agree with our associate, but after six years' trial here, we give up the Rebecca as a grape that we can not grow. We could sooner raise bearing standard pear trees, than large fruitful Rebecca grape vines.—O. J.]

The Cuyahoga.—All the plants of this late comer sent out last Spring, so far as we have seen or heard, were quite small, and so feeble that many of them died in the process of transplanting. Of the fruit we have not yet tasted, but it is spoken of in the highest terms. We should judge, from the accounts given, it would almost rival the Rebecca and Delaware.

Why Cultivated Trees and Plants need Winter Protection.

To plants or trees growing where nature planted them, untrammelled by artificial culture, the Winter season, is not injurious but beneficial. The inner germs of the buds formed in Summer, are wrapped up in many a protecting fold. As the season advances, the tender new growth of branches is ripened and hardened against frost. Later, we see the leaves ripening, changing color, and dropping to the ground to cover the roots with a warm mantle. And when Winter, the night of vegetation comes on, those plants which have been allowed to have pretty much their own way, gently sink into repose, apparently enjoying the season of rest as much as tired man welcomes the slumbers of the night.

But not so with *cultivated* plants and trees. Few of them are really at home. Look at the mixed character of our artificial vegetation. We are not satisfied with our native productions, but have canvassed the other hemisphere to gratify our tastes. It is doubtless well that it is so. Go into our fruit gardens, and see the Duchesses, the Louises, and Beurres, and Doyennes, among our pears; the Monsieurs, the Reines, the Victorias, the Drap D'Or, etc., among our Plums. Go into the ornamental grounds, and we find trees, shrubs and vines from Japan, China, Central Asia, Australia, Africa, Central Europe, and England. Some of these, indeed, are hardy, but not all. And if we insist upon transporting them from their native habitats into our colder climate, we must protect them.

Again, look at our artificial and unnatural modes of cultivation. When nature plants trees, she sets them in assemblages, where one will shield the other, in Winter and Summer. Those exposed to the sun and storm, to the many and sudden changes of temperature, she clothes with branches and foliage from top to bottom. Her shrubs and vines are protected, more or less, in the same way, and her tender plants are shielded by overhanging trees, and by warm and dry blankets of leaves.

We affect to be wiser than nature, and so we reverse her processes. Our trees we cruelly trim up like bean poles, and then set out singly in the open plain, exposed to all the vicissitudes of the year. And so with our shrubbery and plants. We studiously keep the ground neat and clean around their roots, and thus expose them to great alternations of heat and cold. And then instead of allowing them to grow in soil enriched moderately by decaying vegetation, we crowd them into excessive luxuriance by stimulating manures. Such growth is unnatural, and it is nothing strange that trees and plants so treated need protection in Winter.

But perhaps enough has been said to show that, taking our trees and plants as they are, they require some artificial protection in frosty weather. Of the ways of accomplishing this, we shall say something in another article.

The Variegated Leaved Maple.

This new variety of the maple (*Acer negundo variegata*) which was considerably praised last year in French journals, and which was referred to, as "it is said," in the *American Agriculturist* (Vol. XIX, p. 114), is strongly condemned by a French correspondent of the London *Agricultural Gazette*. He says, "I saw not long since that identical 'fine plantation' mentioned as

standing in the Bois de Boulogne, and I give you my honor, I thought it was a lot of linen hanging out to bleach. Anything more ugly can not be conceived. . . . It is inconceivable that it can be endurable under any circumstances whatever, unless in a 'collection' of variegated leaved plants, shown in pots, in some rural display of childish curiosities."—After such a showing we do not care to order any specimens at novelty prices.

How to Protect Trees and Plants in Winter.

1. *Fruit Trees*.—All trees newly planted should have a little extra soil thrown over the roots, to protect them from severe frost, or rather, from sudden alternations of freezing and thawing. This slight elevation over the roots will serve to throw off surface water which would otherwise be likely to stand around the tree to its injury. Its weight, too, will help to anchor the tree, and prevent its being blown over by the winds. After trees have been planted one year, some coarse manure may be laid over the roots in the Fall, instead of the soil aforementioned, which will both protect the roots and feed them. If field mice abound in the neighborhood, a small hillock of dirt, say six or eight inches high, should be thrown up around every young tree, just before Winter sets in. Of course, this must be removed in the Spring. Some of the more tender pear trees will be benefited by winding a thin rope of straw around their trunks. Cherry trees are less liable to burst their bark, if a board, or two boards nailed together at the edges, are set up against the south side of the trees. We have sometimes used a section of bark from a forest tree in the same way. This bark may be loosely tied by strings to the south side of the trunk.

2. *Ornamental Trees*.—Of the deciduous portion of these, the treatment should be essentially the same as with fruit trees. Those just planted should be staked on two sides, and tied up firmly with straw ropes, or broad leather bands, or, better still, with stout lashing from the tailors' shops. This will prevent their being blown over, and the loosening of their roots in the soil. A few half-hardy trees (in central New-York, like the *Virgilia lutea*, *Kolreuteria*, *Salisburia*), some of the *Magnolias*, etc., when quite small, should have their branches gathered together, and bound about with coarse matting. This will be needful, at the longest, only for one or two Winters.

Some of the hardy evergreens, when quite small and newly planted, are benefited by a slight protection for one year. Drive in two or three stakes around a tree, so that their tops will nearly meet above its apex, then bind a few evergreen branches loosely about them. This is not designed to keep the young tree warm, but to guard it in its new situation from too sudden changes of the weather. Half-hardy conifers will need a slight protection of this sort for several years; and experience only can decide whether it can ever be wholly dispensed with.

3. *Shrubs, Vines, and Plants*.—Tender shrubs may be tied up with straw or coarse mats, or they may be bent to the ground and covered with litter. The last is the best way to protect tender roses, raspberries, grape-vines, delicate honeysuckles, English Ivy, and other ornamental vines. All ordinary herbaceous plants should be protected by the debris of their own foliage, and with a little soil or coarse manure from the

horse stable. Whatever material is used, it is desirable that it be light and porous. And the covering need not be as thick and heavy as is often used. What is wanted is chiefly something to keep the plant in a uniform temperature.

How to Transplant Large Trees.

To the Editor of the *American Agriculturist*:

In the October number of the *Agriculturist* you say plant small trees. The writer of this is one of your subscribers of the "Young America" order, who can't wait for a tree to grow for shade in the lawn. Five or six years since I built me a cottage, and being in a hurry for shade trees, I proceeded in the following way: In the Fall, before the ground was frozen, the places for planting were selected, and the surface was covered with litter, to prevent the ground freezing. I then went to the forest and chose eight or ten white pine and hemlock trees about twenty five feet high, cleared away the leaves and earth down to near the roots, and dug a trench around each tree about a foot deep, from three and a half to four feet from the trunk. I threw litter in the bottom of each trench, and left them until the frost had entered the ground about eight inches. They were then ready to remove. I used a pulley to draw them over with, and most of the roots were held fast in the cake of frozen earth. They all lived and are thriving, and I have not only enjoyed their shade, but the disappointment of my neighbors, who prophesied that none of them would live.

E. F. N.

Transplanting Laurel—Rhododendron Maximum.

To the Editor of the *American Agriculturist*.

I noticed in the November *American Agriculturist*, for this year, page 324, some directions you gave a lady correspondent, concerning the proper mode of lifting and subsequent culture of the "Laurel" (*Kalmia*). I presume you allude to the small "Sheep Laurel," as the mountaineers call that plant. As to the "*Rhododendron Maximum*" which is also erroneously called "The Big Laurel" by most persons, I take pleasure in stating here, that three years ago I lifted about one dozen of that species of plant, then growing on the banks of the "Tygart Valley River," immediately opposite the town of Grafton, North-western Virginia, at noon on the 21st of July (and a very hot day it was too), with a ball of their native soil (leaf mold) attached to them. They all are alive to this day, and have yielded me each season since, beautiful blueish white flowers. About two years ago I caused to be lifted, in the same way (earth and all) several more plants of the *Rhododendron Maximum*, at the same place, of sizes from 2 to 6 feet high, with well formed and large heads, and these all yielded me this past Summer, numerous large and beautiful trusses of flowers; one plant among them—had beautiful white flowers. I judge from this, that if I, only an inexperienced amateur, have been so successful in growing these plants, both large and small, that all the outcry about the difficulty of growing them after their being transplanted, is without just cause—I certainly think, however, that leaf mold or peat is their natural food, for I observed, when they were lifted, that they would not fix their roots in the subsoil, but spread laterally along with the leaf mold. My *Rhododendron* plants are now well

set with fine buds for next season. One plant has 24 buds on it.

L. H. JOHNS.

Baltimore Co., Md.

The Moles! The Moles!! Help Wanted!!!

A HINT TO YANKEE INVENTORS.

What *shall* we do with the moles? They are worse than the frogs of Egypt, this year. The frogs work above board and we could catch them if troublesome. The sneaking moles are every where beneath our grounds, plowing them at night in all directions, upsetting and destroying the plants, and sadly marring the intended beauty of the smooth lawns. This is the height of ingratitude. For years we have taken their part, proclaiming them as innocent, fellows intent only on destroying noxious insects. Last year we remonstrated against their extra depredations, and this year, as if in *revenge*, they have swarmed upon us in *innumerable* multitudes. Our rat terrier was let loose, but his subterranean excavations, and mounds, were worse than the enemy. We poisoned cheese and placed it in their paths; the cheese disappeared but the moles did not. We set traps, but with a significant thumb upon the nose and distended little finger, they laughed at our inventions, and made two new paths for one old one we had waylaid.

Seriously, we are at our wit's end, and in anxiety as to the future. If the moles go on increasing as they have for two years past, and no remedy can be found, we shall have to surrender at discretion, and yield them full possession of the contested ground. And we find that we are far from being alone in our troubles. Here is an opening for some ingenious Yankee. Whoever shall first contrive some *simple, feasible* mode of destroying moles will not only confer a favor upon multitudes, but gather dimes into his own pocket. We promise to the first successful practicable mole catcher a free advertisement to the hundreds of thousands of readers of the *American Agriculturist*, that will be worth more than all the hand-bills he could issue in a year. Who is to be the lucky man?

N. B.—The moles hereabouts are apparently a different species from those common in Europe, and they evidently require a different treatment, as all European remedies fail here.

Hens versus Bugs.

A neighbor, who has fine gardens, useful and ornamental, started in life with the idea that he could not have hens running at large, and a well kept garden at the same time. He felt certain that the poultry would scratch, and roll, and tear his neat parterres all to pieces. So biddy was abjured. But his neighbors kept hens, lots of them. And their annoyances, fore and aft, right and left, were exceeding great and numerous. Sticks and stones, whistling, loud shouting, all did no good. He complained to his neighbors. "Do the hens trouble you sir! indeed, it is too bad; they shall be shut up." So said each neighbor, yet, after a day or two of confinement, the hens were at liberty again.

In the lull of our friend's exasperation, one day he happened to observe that while his neighbors hens scratched and rolled among his cucumber and melon vines, they also exterminated the vermin thereabout. He noticed soon after, that while they scratched off the mulching from around his pear-trees and rose-bushes and dahlias, they did it in order to get at the insects which are destructive to these trees and

plants. At length, he concluded that poultry, vexatious as they were to him, were on the search for food, and since they fed on what was injurious to his garden, he might put up with their trespasses. The neighbors began to notice that our friend threw fewer and fewer sticks and stones, and made fewer complaints, and at last he rejoiced in the possession of a dozen or two fowls, to dig and scratch on his own account. He submitted to the least of two evils.

Hyacinths in Glasses for House Ornaments in Winter.

A pleasing, and at the same time a cheap ornament for the house in Winter, is obtained by growing hyacinths in glass vessels of the form shown in the accompanying engraving. This is a sketch from one of half a dozen now standing upon our office table. The bulb lies in the wide neck, while the long roots already extend to the bottom of the water. They have been growing some three weeks. In a month or so a stem will shoot up, and a beautiful spike of fragrant flowers will be produced. The ordinary hyacinth glasses of the form here shown, are



sold by seedsmen at \$1.50 per dozen (12½c. each). They are of various colors—white, pink, carmine, green, blue, etc., with intermediate shades. The colors answer in part for labels; thus, a red flowering bulb may be put in a red glass, blue in blue glass, and so on. Each bulb should, however, have its specific name on a neat label attached to the glass.—As most hyacinth bulbs are

imported from Holland, arriving here in September and October, the earlier they are put in glasses the better; but if in good condition they may be either planted out-doors, or put in glasses in November or December even. A common practice is to set the bulbs in pots of earth, and put them in a cool place to start slowly, and afterward transfer them to glasses for successive forcing, as required. When put in glasses direct, select firm sound bulbs that have not begun to grow, and lay them crown side up in the wide neck, or saucer part of the glass. Fill with rain or brook water so as to just touch the lower portion of the bulb, and set away in a cool dark place for two to four weeks, when they may be brought forward, and set first in a moderately warm place with a mild light, and afterward in heated apartments with a strong light. A bay-window, or other window affords a good place for them. When first brought to the light, the water should be poured off and fresh added, and it should afterward be changed every two weeks. As the stalk shoots up, a wire may be twisted around the bottle and extend upward for a supporting stake. Treated in this way, the hyacinth will form a pleasing and very fragrant flowering plant for the parlor, conservatory, or sitting room in Winter, and by keeping them back in a cool dark place, and bringing them in in succession, fresh blooms may be secured all through the winter months.

KING OF THE PUMPKINS.—In Paris the annual ceremony is performed of crowning the largest

pumpkin offered for sale at the markets, and carrying it through the streets attended by a procession. This year the successful candidate for royal honors weighed 242½ lbs., and measured 10 feet 4 inches in circumference.

Successful Tomato Culture.

To the Editor of the *American Agriculturist*.

I experimented a little this year in tomato growing, and think the result a success. They were planted in rows 30 inches apart each way. (I think 3½ feet would be better). As they grew, each was trained to an upright pole 5 feet high, and all the side shoots were trimmed off soon after making their appearance, except in some instances where branches divided equally, both shoots were trained up. When they reached 4 to 4½ feet high, the tops were taken off. The result of this treatment was, that on a plot 20 by 25 feet, I had 15 bushels of tomatoes. One vine bore 66 specimens. A large number of them would weigh from ½ to 1½ lbs. each. The largest specimen grown on the plot, was 8 inches long, 6 inches broad, and 3 inches thick, weighing 2½ lbs. The variety grown is here called the "Beefsteak."

G. W. ARNOLD.

Preston Co., Va.

Improved Trellis for Tomatoes.

Though not seasonable for present use, the following is worth making a note of, for practice next Summer. The Editor of the *Maine Farmer* thus describes an improved trellis for tomatoes. Short posts, to project above the ground about five inches, were set near the rows of plants and about four feet apart. These were about two inches square, with a half inch hole bored through the tops, and a rod was passed through the holes, the whole length of the row. Five or six inches back of these, was placed another tier of the same kind, but six inches higher. Behind this was another similar tier, six inches higher still. As the tomatoes grew, they were tied to the horizontal rods, until they reached the highest tier, where they were trained to hang over the rod. In this way the vines were well supported, and also were left open to the sun and air. Slats tacked upon the tops of the posts would answer equally well.

A New Garden Vegetable.

French and English agricultural Journals highly recommend for cultivation a plant known to botanists as *Chaerophyllum bulbosum*. It was first introduced into France as a proposed substitute for the potato. The root, which is the edible part, resembles a small parsnip in form, and the plant is cultivated in the same manner. The editor of the *London Gardeners' Chronicle* says it is uncommonly good to eat, and grown as easily as a turnip. When cooked, the taste is described as resembling a boiled Spanish chestnut, without its crispness or hardness. It is proposed to give it the name *Parsnep Chervil*, as it is thought the botanical cognomen would frighten plain people from having any thing to do with it. [The above we find in type for the *Agriculturist*. The Kerbelruebe, or Chervil Turnip, or Turnip Chervil has long been cultivated, though it has not come into general use. Seed can be obtained in this country, we doubt not. It is to be sown in Autumn, and used in Spring. By many it is esteemed a very delicate vegetable. We have not yet tried it. O.J.]

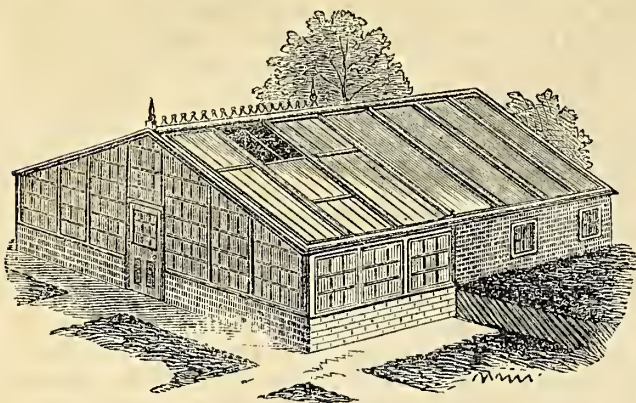


Fig. 8.—A SPAN-ROOF GREEN-HOUSE.

Green-Houses for the People....No. III.

(Continued from pages 368, 340.)

AN INDEPENDENT GREEN-HOUSE.

The hyper-critical few who think these articles are not quite advanced enough, will please remember that we are only writing the A B C's; as intimated in the caption, we are trying to teach the masses who have hitherto not given attention to the subject, and whose circumstances do not allow them to study or practice the building of extensive conservatories. Those who can spend their five hundreds or their thousands of dollars on artistic structures of the most perfect kind, will, of course, consult more extended works devoted entirely to the subject.

The *Lean-to Green-House* described last month, though very desirable and economical, is open to some objections. It is necessarily shaded a part of the day, and the plants grow one-sided and deformed, unless very frequently changed so as to bring every side equally toward the strongest light. Therefore, where practicable, it is better to construct an *Independent Green-House*, that is, one apart from every other structure. The location may be in some part of the garden or lawn. It is desirable to have it near the dwelling house, and it may well be directly connected with the house by a covered walk, so as to be conveniently accessible to the members of the family and to visitors, in all weathers. There should be no trees on the East, South, or West sides to obstruct the sun-light. A belt of evergreens near, but not close to the North side, will break off cold winds from that direction.

An Independent or *Span-Roof Green-House* may be described in brief, as *two Lean-to green-houses* placed together. Fig. 8 above illustrates a cheap, convenient form. The length is im-

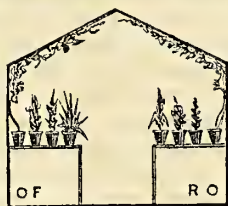


Fig. 9.

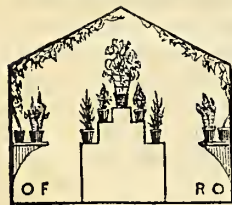


Fig. 10.

material, 30, 50, or 100 feet, or more. The width may vary from 15 to 40 feet, or more. For a small green house, a good proportion is, say 15 feet wide, 25 feet long, 12 feet high at the ridge-pole, and 4½ feet high at the eaves; or better still, if the expense be not too great, 20 feet wide, 40 to 50 feet long, 13 or 14 feet high at the ridge, and 4½ feet at the eaves. The roofs on both sides, and the gable ends being made of glass, the light is admitted on all sides, and it is not essential to have the low side walls of glass. These may be

of brick work, with occasional movable doors or traps to admit air freely when desired in hot murky weather. Or there may be a parapet (base wall) say 2 feet high, with sashes 2½ feet high above. The latter form costs a little more, but presents a more artistic, showy appearance. In fig. 8 we have for convenience of illustration shown both kinds in the same side wall. Where the soil is dry, or may be made so by drainage, the floor may be 2 feet below the surface, as this promotes humidity and warmth.

This arrangement is shown in the farther end of Fig. 8. The architectural appearance, however, is in favor of putting the whole above ground, as shown in the near part of fig. 8. As a rule, the house should run north and south, and the south end should be glass—except the base wall of 2 feet high. The height should be not above 12 or 14 feet at most. Any unnecessary increase in height greatly increases the amount of atmosphere to be tempered with heat and moisture, rendering it more unmanageable.

The covering or roofs may be made just as described for the *Lean-to green-house*, page 340—or the cold graper, page 272—that is, the sashes may be made in two parts as shown in the nearest three sections of the roof, Fig. 8; or full length, as in the other sections. The double sashes, and the cords and pulleys, are far more convenient, but the simple hooks and staples, that were described on page 272, will answer. The internal arrangement may be like Fig. 9, or 10, or 11. Fig. 9 is adapted to a small narrow house, with a table along each side, and a walk along the middle. The heating pipes or flues, *F*, and *R*, are explained further on. Fig. 10, a wider house, has tables along the sides, and a stage in the center. Fig. 11, has the side tables, and a central border for growing shrubs and plants directly in the soil instead of in pots. The plants are not well shown in Fig. 11. Taller shrubs should occupy the center, and low growing shrubs or plants may fill up the sides. Running vines may be trained along the edges. The earth of the central border may be on a level with the walks, or may be raised a little, with boards or ornamental bricks along the sides.



Fig. 11.

FURTHER ON HEATING GREEN-HOUSES.

To apply the furnace and flue heating apparatus described last month, to a span roof green-house, a flue would need to run clear around to a chimney on the same end with the furnace.

The best mode of heating is by means of an iron boiler and hot water pipes. These are made quite cheaply, the smallest sizes being sold as low as \$27½, and from that upward. The cast iron pipes, 4 inches in diameter, 12 lbs. to the foot, are furnished at about 30 cents per foot. We have the estimates of manufacturers in this City, at \$110 to \$120 for the entire expense of putting in boiler, pipes, etc., for a small green-house, say 12 feet wide, 25 feet long, and 12 feet high. The boilers being but a fraction of the expense, it may be best to get a larger one than

is actually required at first, as it will then answer for any addition made to the house, and also be more economical of fuel than a smaller one. The iron pipes are 10 to 12 feet long, and rim jointed. The joints are made water-tight by hammering in iron filings moistened with a little rusting material, as salt, or sal ammoniac, which causes them to cement together into a solid mass with the iron pipes.

One great advantage of hot water pipes is, that a uniform temperature can be maintained with great economy of fuel—very little heat being lost. Fig. 12, illustrates the principle of a good hot-water apparatus. It is a double iron furnace or boiler, so constructed that the fire *C*, *C*, *C*, is surrounded with water on all sides except at the bottom. The base, with the ash-pit *A*, may be of iron, a part of the furnace itself, or it may be of brick. It will be seen that all the water in the inner boiler *W*, in the out-

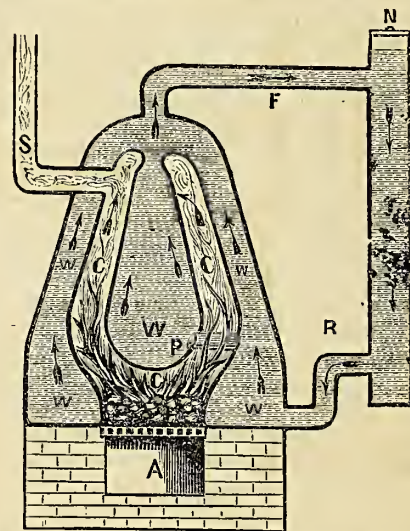


Fig. 12.—HOT WATER APPARATUS FOR GREEN-HOUSES.

er sections *w, w, w*, and in the pipes *F*, and *R*, and in the reservoir, *T*, is so connected as to form but one mass. The fire in *C*, rises all around the inner boiler *W*, at the same time heating the water in the outside cylinder, *w, w, w*. The smoke escapes from the pipe *S*. A pipe or other opening, *P*, connects the inner and outer boilers at the bottom. In the actual boilers the construction is a little different, but fig. 12 illustrates the principles of a good heater.

The action of the apparatus (fig. 12) is as follows: It is a well known fact that heat expands water, making it of lighter weight.* The warmer lighter particles rise up, and the colder heavy particles sink down to take their places—the least heat applied to the bottom of a vessel of water starting an upward current and a downward one. In fig. 12, the water in *W, w, w*, is heated, and rising up passes along through the iron flow pipe *F*, and into the iron reservoir, *T*, all the while giving off through the iron the heat it has brought up from the fire. The water in *T*, and in the return pipe, *R*, having become cooled off by the loss of its heat, returns to the bottom of the boiler or furnace, to take the place of the warmer water rising up. In this way a constant circulation is kept up, its rapidity depending upon the degree of heat in the furnace. So sensitive is water to the influence of heat that a single handful of shavings in the boiler would

* Water does not conduct heat through its mass. A fire built on the top of a tea kettle would boil away the upper water without so much as melting a piece of ice in the bottom. But when the fire is placed at the bottom, it heats the particles of water there, and they being lighter rise up, and the colder particles sink down, until all have gone the round and become heated.

give a slight, though imperceptible current to the entire mass of water. It will readily be seen that there is very little loss of heat. The water is all around the fire, and it absorbs most of the heat, while in the flow and return pipes, and in the reservoir, all the heat not actually given out into the green-house, is returned into the boiler again. The reservoir, *T*, is open at the top, with a cover over it, and it serves a triple purpose: first as an opening to pour in water to fill the boiler and pipes; second as a radiator of heat similar to the pipes; and third as a safety valve, for should the heat ever rise so high as to endanger the bursting of the pipes, there is an escape through the loose cover of the reservoir.

In practice, the reservoir, *T*, is placed in the most distant part of the room to be warmed, as shown in fig. 13. The flow pipe *f*, and the return pipe *r*, are made as long as required to furnish

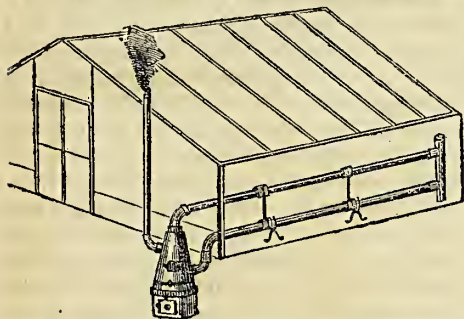


Fig. 13.—PLAN OF HEATING A GREEN-HOUSE.

a large amount of radiating surface. These pipes may be carried along one side, one above the other; or one may run along one side of the green-house, and then back along the other side. Or the flow pipe may branch, one part running along the east side, and the other along the west side, and then the one or more return pipes come back along the middle; or *vice versa*, one or two flow pipes may run along the middle and the return pipes come from the reservoir, back along the two sides of the house. The flow pipes will, of course, need to be kept a little higher than the return pipes. Or, again, the smoke flue *S*, may be of brick, or iron, or pipe tile as described last month, and run along the center of the house, while the flow and return pipes may run along the sides. Indeed, they are scarcely arranged alike in any two houses.

It is desirable that the furnace itself should be outside of the house, so as to have the doors of the fire and ash vaults open *outside*, to keep ashes and dirt away from the plants. We have seen a furnace placed in a deep vault, or pit, at some distance from the green-house. There is economy of heat in placing the entire heating apparatus just within the wall, but keeping the doors on the outside. There is more danger of fire, than when the furnace is entirely outside, away from the house, but less heat lost. Those purchasing furnaces should be careful to get the best, as many of the older, and some of the newer, are difficult to manage and keep in repair.

Simple Method of Striking Rose Cuttings.

"Rusticus" describes his plan of striking roses in a late number of the *Gardeners' Chronicle*, as follows: "I have been in the habit, for some years, of striking roses in what appears to me a much more simple way than is described in your paper of the 5th inst. At any time of the year, when they are to be procured, I take cuttings of any sorts of roses I want to propagate, (Moss included,) and cut the half ripened wood into lengths of two eyes. I remove the

bottom leaf, leaving the top one to rest upon the surface of the bed and nourish the cutting while it forms its roots. The hot-bed (a very slight one) in which I plant the cuttings, is made thus: On the top of a little manure, just enough to give

a slight bottom heat, I place 6 inches of earth, moistened to the consistency of mortar, then cover with white sand, and set in the cuttings. I have occasionally struck every cutting, while 99 out of 100 are an average result."

Socks for Soldiers and Others.—The Government or Army "Regulation" Pattern.

THE ENGRAVING IS JUST *one third* THE SIZE.

Directions.—*a*—Put 24 stitches on each needle, of yarn, No. 20—or 26 stitches of yarn No. 22.

b—Length of the ribbing.

c—Put 2 more stitches on the heel than on front.

d—Narrow every other time until there are two less stitches on the foot than on the ankle.

e—Widen every 4 stitches, as you take up the foot.

f—Narrow 5 times on each side of seam after knitting as many times across as there are stitches on.

g, h, i—One quarter of the socks to be 10½ inches long in the foot; one half of them to be 10 inches long, and one quarter of them to be 9½ inches long.

k—The yarn to be any color but white. Coarse grey yarn is the cheapest. One pound makes four pairs. The socks, if for government purchase, must weigh at least ¼ lb. Use needles No. 15.

We have received from Government, a large sheet giving the outline form of Army Socks, full size. As the subject is one of interest to the lady readers of the *American Agriculturist*, both those who are patriotically disposed to supply one or more pairs of socks for the soldiers, and those who knit socks for their own families, we have prepared the accompanying engraving, which is an exact copy of the pattern furnished us, but is reduced in all its parts to just *one-third* of the size required. Thus, the length from the top to the bottom of the heel is to be 13 inches, or three times the length of our engraving; and other parts are to be enlarged three times in like manner.—A sample of gray yarn, No. 20, accompanies the directions; but we can not represent it, nor is this necessary, as the number (20, or 22) indicates the size. The directions above, are those furnished. The instructions in regard to the size of yarn and needles are not imperative, but should be conformed to as far as practicable. Yarn heavier than the sample, rather than lighter, should be preferred. Those desiring the full size patterns can obtain them without charge by addressing John I. Hinchman & Co., No. 26 Vesey-street, New-York City. Accompanying the Directions and Pattern, we have received the following:

"TO THE WOMEN OF AMERICA.

The Sanitary Commission having on the 30th September last, with the approval of President Lincoln and Lieutenant-General Scott, made an appeal to the Women of the Loyal States for articles necessary for the comfort of our Army in the field during the winter months—we herewith furnish specifications for those who may be disposed to knit Woolen Socks or Stockings for that purpose.

Articles furnished in compliance with this appeal, may be forwarded through the Women's Central Relief Association, Cooper Union, No. 10 Third-avenue, New-York; or through the Quartermaster's Office, No. 6 State-st., New York City, (Col. D. D. Tompkins.)"

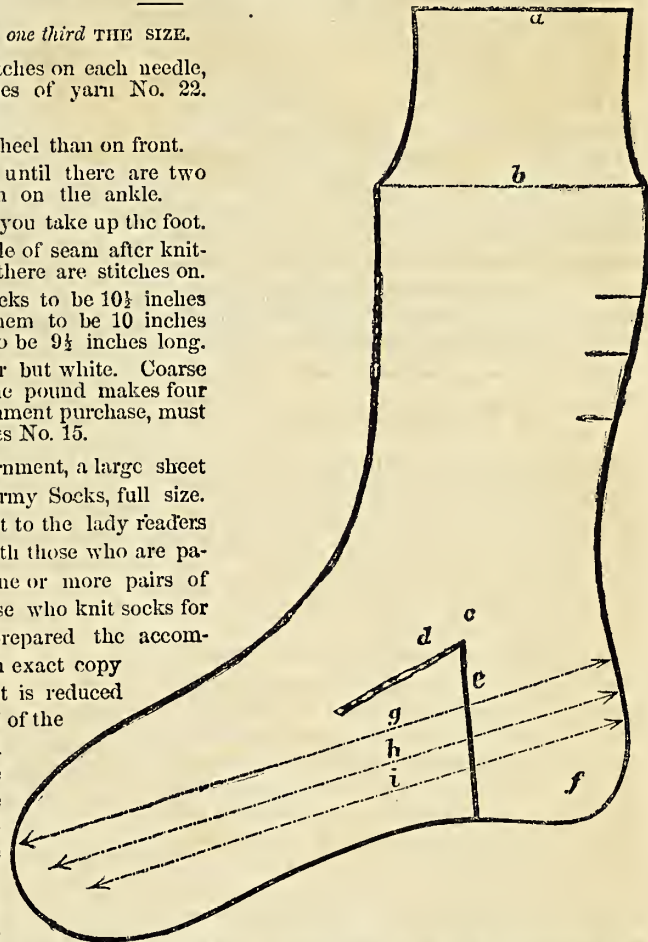
SAD-IRON—FLAT-IRON—SMOOTHING-IRON.—These three names are all applied to the same household implement. The second is in most common use, but the first has the authority of

refined society, and is now so frequently used among all classes, that no one adopting it, need fear the taunt of "using big words." We propose that all drop the terms Flat-Iron, and Smoothing-Iron, which are applied to several other mechanical instruments, and for the household implement use the word "Sad-Iron" only.

A Housekeeper on "Hard Times."

"Hard times" should be represented as a woman with a sieve in her hand, or better still, perhaps, a man turning the wheel of a fanning mill. First go into the capacious hopper, all the more expensive articles of the wardrobe, dresses, bonnets, hats, caps, coats, etc., etc.—perhaps some expensive crinoline finds its way through, and all are thrown by the relentless fan, far beyond the reach of the luckless victim of "Hard times."

Next go in certain dishes of edibles from the table; then the hired help disappear in a bunch. The loss of all these, however, has been viewed with comparative indifference, but now we are bringing sundry newspapers, periodicals, children's books, etc., giving them into the grasp of "Hard times," with manifest reluctance. We retain our hold upon our favorite magazine for some time, and perchance some tears are shed over it, before we relinquish it to see it flying away upon the wings of the wind, along with all the rest of the "can-get-along-withouts," among which you may read: "Hopes of a sewing machine." In the small measure of "must-haves"



which remain after the "can-get-along-withouts" are blown away, we find the *Agriculturist*, and one religious paper, and perhaps one or two others, for all of which we will try to be thankful, and now all join hands and sing with cheerful hearts, "Many days you have lingered around my cabin door, Oh! "Hard times" come again no more."

I can assure you Mr. Editor, that like Thomas' towering cabbage in the Eighteenth Book of Chronicles (*Agriculturist*, Vol. 18, page 68.) "This is not all a dream." Mrs. O. G. N.

[A true picture, but while the inconveniences of "Hard times" are recounted, let us not forget the benefits. As a people, Americans are more given to extravagance than any other nation, and a salutary lesson from "Hard times" is needed occasionally to check thoughtless indulgence and wasteful expenditure. Let the lessons now learned be remembered when prosperity returns, and then we shall be fortified against future reverses.—Ed.]

A Very Bad Practice.

A recent letter, incidentally referring to a bright 12-year old girl, in whom we have a relative's interest, says: "...She is trying hard to keep up with an advanced class, so as to get her diploma with them after another year....She studies four hours every night, and is up at her lessons early in the morning...."

Now, for her benefit, and for that of thousands of others, we wish to say to parents, that no growing child, no one not having nearly attained full physical development, can endure such study without serious danger. *Six hours a day at books, in school and out of it, are enough for any child under sixteen.* At the risk of losing friends, we say positively that any teacher is at fault who does not so time the amount and length of studies and the exercises of the school, that scholars shall not be required to 'learn their lessons at home,' or else lose caste and standing in the school. If the exercises are varied so that only three or four hours of mental application, *recitations included*, are required at the school rooms, then an hour or two, according to age, may be devoted to study at home, but never after sundown. It is not possible for a healthy, vigorous development of the body to go on at the same time with close mental effort. As the mind acts through the physical machine—the body—it is all important to secure a good machine first. *After this is built up, perfect in all its parts, you may make almost unlimited drafts upon it.* Give the children light suppers, with no mental work in the evening, and they will sleep well, digest well, grow well, be well, and by and by they will do well. The reason why the farm, and the lowly walks of life, have furnished so large a proportion of our successful men and women, is because the children there grow up with less of mental labor, and more of physical stamina. Your quiet studious children make nice pets—little earthly angels—but they never grow into active energetic men and women.

We offer no apology for *lazy* scholars. Give the children short lessons, and few of them, and require them to learn these WELL, and study while they do study; let them get their own lessons, and not have them all simplified and explained so as to require no effort on their own part; then let them devote 17 or 18 hours out of 24 to sleeping, eating, and especially to active exercise of some kind, and you thus develop habits of close application and self-reliance, and build up a body that is not a candidate for a

puny existence, or an early grave. Please stop that little 12-year old from night study. It is not all important that she "finish her studies" at any particular time. One year more devoted to acquiring the same amount of mental discipline, will add many years to her life, or at least make the years of her womanhood far more effective ones.

A Corn Bread Exhibition.

PREMIUMS OFFERED.

We desire to learn how to make the best Corn Meal Bread for general use, and to publish the directions. A great desideratum is a Corn Meal Bread that will be good when cold, and about three days old, and which can be made at the cheapest rate; that is, one which shall not cost so much for the ingredients as to make it as dear as wheat bread. We therefore offer

A premium of **Ten Dollars** for the best loaf of Corn Meal Bread baked on Thursday, December 12th, and sent to the office of the *American Agriculturist*, 41 Park Row, on or before Saturday Noon, December 14.

Also a Premium of **Five Dollars** for the second best Loaf.

Also a Premium of **Two Dollars** for the third best Loaf.

CONDITIONS.

1. The loaf is to be made wholly of Corn Meal, or to contain not more than one part of wheat flour to five parts of corn meal.

2. The loaf to be of fair size for family use.

3. The least expense per pound of the loaf will be an important consideration.

4. The amount of waste in hard crust will be taken into account.

5. Each loaf must be accompanied with a particular statement of the exact amount of the ingredients used, and of the entire process of mixing, time and manner of baking, etc.—all so plainly stated that others can follow the directions when printed.

6. The process must be such a one as can be adopted in families generally.

7. No package will be received on which there are expenses for carriage to be paid by us.

We have placed the time (Dec. 14,) rather early, but we desire to publish the results in the January *Agriculturist*. A committee of competent judges will be selected to examine the loaves contributed, and upon their award the premiums offered will be paid in cash.

We invite such of our readers as are accustomed to make good corn bread of the kind indicated above, to send in a loaf of one or more kinds. Those who do not chance to secure a premium, will not lose much, while they will help to increase the interest of the exhibition.

Those living at a distance can send by Express at little expense. If the object be stated, the Express Companies will charge very moderately. A package started on Thursday evening or Friday morning, can be sent several hundred miles and be delivered here Saturday forenoon. After the exhibition, the loaves contributed will be sent to the Five Points' Mission, or be distributed to the needy elsewhere, so that the contributors will have the satisfaction of benefiting the needy, whether they obtain the credit and cash for the best specimen, or not.

If the above plan works well, we shall probably offer premiums in other departments of household labor, for the purpose of drawing out information for the benefit of all.

Extra Premium.

All the above are for bread of a particular de-

scription, adapted to the general wants of families who desire to economize by substituting corn for wheat as a daily diet. In addition we offer: An extra Premium of **Four Dollars** for the best Loaf or Cake of any kind in which corn meal is one of the chief ingredients.

This premium will be awarded mainly with reference to the *quality* of the bread or cake, though economy will be one of the items taken into consideration. The recipe or specifications for making, will be required the same as for the first named class.

We hope the ladies will lend their aid to this enterprise, and make the first effort of the kind a highly successful one.

Buckwheat Cakes.

Contributed to the *American Agriculturist* by Mrs. S. H. Ingalls, Muscatine Co., Iowa. "As inquiries have been made, and much has been said about making these indispensables for the breakfast table, without soda, or "detestable" saleratus, I would recommend the following recipe, in using which there need be no necessity for "sweetening the sour batter," for it will never be *sour*, if the cook does her duty. Take one quart of warm water, and add sufficient buckwheat flour to make a rather thin batter; stir in half a teacupful of good sweet hop yeast, and a little salt; beat well together, cover up, and set in a warm place, or where it will not freeze over night. If it is very cold, the batter should be mixed early in the evening, that it may have time to rise before the fires are put out, otherwise it will not ferment, and rise sufficiently. If these directions are followed, and fresh batter be made every night in a clean pan, you will have delicious light cakes every morning, without either saleratus or cream of tartar. Judgment must decide about the thickness of the batter; if too thin, it will not be light, if too thick, the cakes will be rather dry. Many cooks leave a little batter in the pan for "rising" as they say, because it will not take so much yeast, and day after day the batter is mixed in the same pan without cleansing! No wonder "soda" is needed to *purify* its acidity! My own taste prefers the clean pan, and fresh batter. If yeast is properly made, it will keep perfectly sweet and light, without settling, for two or three weeks in Winter; yeast that settles, leaving water on the top, soon sours, hence the need of soda."

How to Cook Parsneps.

These vegetables, as is generally known, are of better flavor after being left in the ground through the Winter. As they are much used, however, during the Winter months, we publish the following directions for cooking them in various ways, some of which we know to be excellent. They were contributed to the *American Agriculturist* by Mrs. E. F. Haskell.

Parsnep Fritters.—Boil parsneps until tender; mash and season with butter, pepper and salt; make them in pats, dip them in butter, and fry in very little fat until brown. Or cover them with egg and cook gently.

Boiled Parsneps—Good.—After they are boiled and peeled, chop them as fine as green corn cut from the cob, and season while hot, with butter, pepper, and salt.

Parsneps Broiled.—After they are boiled, slice the roots and broil brown. Make a gravy as for beefsteak.

Parsneps Fried.—Proceed as above, season and fry brown, in butter.

Parsnep Oysters.—To one pint of mashed parsneps, add three well beaten eggs, a teaspoonful of butter, pepper and salt to suit the taste, and sufficient flour to hold the mixture together. Make into little flat balls and fry brown in butter.

Parsnep Hash.—Mash boiled parsneps and potatoes, and chop boiled pork fine. Allow three parts of parsneps and two of potatoes, to one of pork; season with pepper and salt; make them into balls, flat them, and brown on the griddle.

Pork and Parsnep Hash.—Boil and mash the parsneps; allow one part of pork to four parts of parsneps, season to suit, and fry in pats, until both sides are browned.

A Batch of Recipes.

Contributed to the *American Agriculturist*, by Miss. L. Palmer, Luzerne Co., Pa. A certain good housewife pleasantly says, there are only two *right* ways of making corn bread, and among the long list of methods in the November number neither is precisely shown forth. The first is meal prepared with scalding water merely, a compound which has reposed before open fire places on oaken barrel heads propped up by flat irons, ever since corn was within Yankee knowledge; homely, but when made of good meal, well flavored and excellent. It may be baked about one inch thick, on a griddle.

The second, I made and took a premium for at this year's County fair—but I lost my fine loaf—every crumb of it being devoured butterless! Here are the directions: Scald a kettle of skim milk, stir in as much as the milk will moisten, of meal two parts, rye or graham flour one part—this latter not added until the meal is cooled, a little salt, and one tea cup of molasses. Set in a warm place two or three hours—then bake slowly over night.

Baked Corn Pudding—not for dessert but *dinner*—is made by filling a dish with green corn, or with corn scalded and dried for winter use. First soak it well. Season with salt, pepper, and plenty of butter. Pour sweet milk upon the corn until it appears at the top of the dish, and bake an hour.

Real Corn Oysters.—We saw a recipe for a somewhat similar preparation in a previous number of the *Agriculturist*, but this is best. One pint of grated green corn, one egg well beaten, one cup of cream, a piece of melted butter the size of an egg, one teaspoonful of salt—enough flour to make a rather stiff batter; bake in little oblong cakes like oysters, which they very much resemble in taste. [But it is the *ripe* corn that we need to cook now.—Ed.]

Nice Breakfast Buns.—Take a quart of warm water, mix with it half a teacupful of butter, one teacupful of 'lively' yeast, two teaspoonfuls of salt, and as much flour as you can stir in. Set it in a warm place over night, and in the morning take it out and knead into buseuits; set it to rise once more, then bake. If all the processes are rightly gone through with, this will be found very light and delicate.

Brown Betty.—A homely but excellent pudding. Place in a pudding dish layers of bread crumbs, sliced tart apples, and brown sugar alternately, until the dish is full; season with cinnamon, nutmeg, or any spice liked; on the top spread small lumps of butter. When about half done, stir it up thoroughly with a long handled spoon; then finish baking. Eat with cream, or butter, or any sauce that may be preferred.

Another Corn Bread.

To the Editor of the *American Agriculturist*.

You ask for a recipe for making corn bread which will be good for 1 to 4 days. Here it is:

Old Virginia Pone:—To one qt. of boiling water (with salt) stir in Indian meal sufficient to make a thin mush; then remove from the fire, and add 1 qt. of cold water, and meal enough to form a stiff batter. Let it stand over night, and bake in deep pans from one to two hours. This bread is much better baked in the old fashioned dutch-oven than in a cooking stove. It is very good after it is several days old, if cut in thin slices and toasted. MARY Y. PARKINSON.

Genuine Indian Hominy.

Contributed to the *American Agriculturist* by J. A. D. Clarke, Windsor Co., Vt., who says the directions were learned from the Ottawa Indians.—Take ripe shelled corn, pour on boiling water and let it stand an hour, for the purpose of loosening the hull. Pour off the water, and the corn will soon be dry. Then put it into a mortar, and crack the kernels into halves, or not finer than quarters, winnow out the hulls, and it is ready too cook. Simmer the hominy in sufficient water over a very moderate fire for at least six hours, leaving it when done of the consistence of well cooked rice. To be eaten cold or warm with honey or sweetened cream.

German Pancake.

Having often eaten this dish with much relish at a German dining saloon in this City, the writer solicited and obtained the following directions for making it: To one quart of sweet milk add flour enough to make a moderately stiff batter, and a little salt; thin it with three eggs, and beat the whole well together. Fry in lard, or butter, which should be hot when the batter is poured in. Use a spider or frying pan, and let the batter spread out to the extent of the pan. Turn it so as to brown both sides. Eat with powdered loaf sugar. *

Drop Biscuit.

Contributed to the *American Agriculturist* by S. A. Curtis, Portage Co., O. One cup of cream, one cup of sour milk, one egg, a small teaspoonful of saleratus, a little salt, and stir in flour with a spoon until it is stiff enough to keep its place. Drop a spoonful at a time on a tin, and bake in a quick oven. Rye biscuits made in this way are very good.

For the *American Agriculturist*.

To Copy Leaves on Paper—Another Method.

I think the following method of copying leaves on paper, superior to the one recommended on page 277, (Sept. *Agriculturist*.) Mix a few cents worth of chrome green with sweet oil, to a consistence a little less than that of cream. An old cup or tumbler will conveniently contain it. With a soft brush, (a bit of cloth will answer,) spread the mixture very thin on a thick piece of unruled foolscap or other smooth paper. Place the leaf with the rough or veined side down, upon the prepared paper, lay another paper over it, and gently rub, or press every part of it, until every vein is slightly coated with the mixture. Place the leaf so prepared on drawing paper, lay a clean piece of paper over it, and gently

press it with the hand until the impression is taken.

JOHN W. BUCHER.

Northumberland Co., Pa.

About "Shaving Easy."

This item is for the *men*, but as it refers to an in-door operation, we place it in the household department. The present prevalent custom of wearing the beard moderately long on the chin and neck, is not a bad one, on the whole.—A mustache or "swab" of hair on the upper lip to obstruct the voice, and dip into food and drink, is an abomination. If any body likes it, we pity his wife and children—if he have them; yet we shall not quarrel with his taste, but we hope not to be compelled to drink in the same vessel after him.—A coat of hair upon the chin and neck is undoubtedly a good protection against a sore throat, and if it be worn only moderately long, so as not to be in the way, it is not objectionable in appearance, while it is undoubtedly economical. To shave the upper lip two or three times a week is a very brief operation, and attended with but little trouble or pain. To shave around the chin, "doubling the cape," and over the wrinkles of the neck, is rather a serious performance for a nervous, or a busy man. A saving of five minutes three times a week amounts to months in a life-time, to say nothing of the saving in soap, razors, etc.

To secure a good razor is a difficult matter, and one of chance mainly. The best razor we have had, was bought for 25 cents of a peddler at a steamboat landing on the Mississippi—our own having gone with our baggage in another direction. (*Mem.* Barbers on Mississippi steamboats do, or did, charge 25 cents for shaving—a heavy shave that!) But as a rule, a first-rate razor, even if expensive, is the cheapest. The annual interest on a good razor, costing \$1.50, is 10½ cents, and the interest on one costing 50 cts. is 3½ cents. The difference of 7 cents a year is a good expenditure even for a busy farmer;—provided always "father's razor" is not a common resort when wife wants a particularly sharp instrument; in such a case buy the low priced razor. (*Mem.* If women had any experience in shaving, razors would never be so used.) Almost any kind of a razor will answer for reaping the upper lip if the "soil" be properly prepared. Fancy soaps are not needed. The use of the soap is to *soften* the beard, and the strongest soap will do this most effectually. A soap that will lather is desirable, but almost any kind will produce a thick lather if beaten well with the brush. The main thing to promote an "easy shave," is to *soak* the beard with soap long enough to *soften* it. To this end, if the beard be coarse and stiff, apply the soap or lather, and let it remain five or six minutes, wetting it again if it dries, and in the meantime attend to something else. With this precaution the beard will become so soft as to be cut off with ease, and without "starting the hair from the roots," or tears from the eyes. Good barbers apply the lather first, and while it soaks, they strap the razor, and fuss round at other matters. This is the secret of their shaving so easily. It is usually best to strap the razor immediately after shaving. It is then ready for use in a hurry, and what is of more importance, the strapping removes moisture and prevents rusting.

After shaving, and washing off the soap thoroughly, apply a little alcohol, or cologne, or a little vinegar and water to the face, and to the beard remaining. This will neutralize the alkali of the soap, and prevent it from chapping the skin or changing the color of the beard.



THE CHRISTMAS TREE.
(Engraved for the American Agriculturist.)

The Editor with his Young Readers.

The German Boys and Girls of the "Agriculturist Family" (and there are thousands of them) will understand and appreciate the above picture, much better than those whose parents have long lived in America. This is not because the mythical "Santa Claus" is less known here, nor because he is supposed to be less generous towards the little ones on this side of the Atlantic. But, somehow, we have formed very different conceptions of him, from those entertained in Germany. Here, we recognize Santa Claus as an old weather-beaten man, clothed in furs, and delighting in crawling down chimneys, and through key holes, and furtively prying around in the dark after stockings or bags. In Germany he is supposed to delight in brilliantly lighted rooms adorned with beautiful evergreens, that even in mid-winter remind one of Spring time. Here, children hang their stockings, after dark, in the chimney corners, and on the backs of chairs, etc. In Germany, the friends of the little ones, on the approach of Christmas, set apart the best room in the house, and place for receiving Santa Claus' gifts the prettiest evergreen tree to be had. We like the German idea best, and we are glad to find this one of their customs coming into practice here. To show the Christmas Tree in its highest perfection, our artist

was instructed to prepare the above beautiful engraving, which is not unlike what we enjoyed last year. A wealthy lady among our subscribers, who had no children of her own, invited ourselves and our little ones, with lots of her nieces and nephews, to call on Christmas night. We found a merry group in the dining room on the tip-toe of expectation. Presently the parlor doors were thrown open, and there, in the center, stood a splendid Norway Spruce, as natural as if it grew there, and such a profusion of little candles all lighted, little flags, oranges, apples, and other fruits, both natural and gilded specimens, cakes, toys, etc., etc., as filled up all the branches, we never saw before. We have seen Christmas Trees at festivals, and have helped fit them up for our Sabbath School children, but this one beat all we ever saw. The artist has not half pictured the scene. When we had all admired it, and the candles had begun to burn down, a box of numbers on papers went round, and round again, and the distribution commenced, the principal toys having been previously numbered so that each one received whatever articles happened to be numbered on his paper slips. There were some odd assortments of gifts that fell to individuals in the company. You may guess, if you can, what we got.

But a Christmas Tree is pleasant, if it be no more than a simple evergreen branch hung with a few

simple toys and cakes. We have seen a merry group around such a "tree," where there was nothing but the simplest gifts that poverty could afford, and they were happy indeed. Happiness depends very much upon the hearts of the group. While we now wish that each of you, young friends, may have "A MERRY CHRISTMAS," and that all your hopes of fine presents may be realized, we can not forget that to thousands of families the occasion will bring this year sad thoughts. Among our readers are doubtless many whose fathers are away at the war, some of them perhaps are already sleeping in death on the battlefield. And many we know have been thrown out of employment by the 'hard times' and can not this year afford to make presents as heretofore. But Christmas may bring something of comfort even to such. The day commemorates the birth of the Friend of the poor and suffering. He came to bring the best gifts man can receive. He will give consolation to those who seek it at His hands. We commend all sorrowing ones to Him, and may they find Christmas a peaceful if not a 'merry' day.—And before we leave this subject, allow us to offer one thought more. You remember the account we gave you of "Bite Bigger Billy," and of the little boy who divided his peach with a comrade. Can not you, at the coming Christmas, imitate these boys?

Do you not know of poor boys or girls who will have no friends able to bring them presents this year, and will it not lighten your own enjoyment of the day to surprise one or more of these lowly ones, by privately getting into their hands a little toy, or cake, or any little present that may gladden their hearts? Suppose that of the tens of thousands of those who look at our beautiful picture, each one should perform some act of kindness on Christmas day. What a vast amount of happiness would be created, and none would afterward enjoy it more than those whose active hands were engaged in the good work. A kind act done is always a source of joy to the doer. "It is more blessed to give than to receive."

How many Soldiers?

Nearly all of the numberless troops passing through this City, call for a meal at the convenient "barracks" in the Park, just in front of the office of the *American Agriculturist*, so that from our window we can see an army on almost any day. The men of a Massachusetts regiment were resting upon their arms here the other day, when a bystander asked one of them, how many soldiers were to be sent to the war from that State? He replied: "Massachusetts will send at least a regiment a week for six months, and if that don't do, she will come herself."

Thanks to the Little Agents.

The Publisher desires to express his special thanks to the little Boys and Girls who have solicited and sent in so many new subscribers to the volume just closing. Why, some of these are hardly large enough to carry the great illustrated Dictionary that they have received as a prize for clubs of subscribers that they have themselves collected without aid from older persons! It would have done any person good to have seen a little 9-year old boy from near this City, as he marched out of our office with an "Unabridged Worcester" on his shoulder, which "he had earned all himself." Well, we bespeak the continued favors of our young friends. The appeal of a child who wants to get up a "dictionary club" is pretty hard to resist, even by one who has never troubled himself with this "book farming." But aside from the premiums that are offered to all—young, middle-aged, and old—we shall furnish in these pages a valuable store of good things for next year. Like all others, we have been much absorbed in the war news, and have hardly felt like having social chats with our young readers, but we are getting used to the war, and we shall try to throw more life, more sound, moral, but lively amusement into these pages. Though we give but two pages to the youth's department, these are large, and the type small, and we can, in this department alone give almost as much reading as is contained in many children's magazines, each costing half as much as the entire *Agriculturist*. We invite all our young readers around the table that we shall set out for them in the next volume. Come at the beginning of the feast—"be in time, rain or shine," and each bring along a troop of new friends. See "Something for Boys," on page 355.

Criticism on the Picture, Opposite.

On looking at the inside sheet of this number, which went to press some time ago, we see the artist has made at least three errors in the engraving of the Christmas Tree: *First*, he has not put any boys in the picture, when there ought to be lots of them there. *Second*, the man in the picture does not look at all like any one of the editors of the *Agriculturist*. Some may think this is intended for the editor himself, but all the editors look more like farmers. *Third*, the grandmother don't appear half so pleased as she really is; the graving tool must have "slipped" in cutting away the wood around her month. Otherwise the picture is good.

New Problems.

No. 27, *Illustrated Rebus* suited to the times.



No. 28.—*Enigma*.—I am a word of five letters of much use in the army. Take away my 1st, and I run. Without my 1st and 2nd I am sick. Remove my 4th and 5th and I am thirsty. What is the word?

No. 29, *Puzzle*.—"An old woman fried in butter." Spell that with four letters only. We can spell it with two.

Answers to Problems in November No.

No. 25, *Illustrated Rebus*.—See page 346.—Answer: One dollar [p] a's [f] o' r [t] h' e [A] m' e' r' i' c' a [n] a' g' r' i' c' u' l' t' u' r' i' s' t [a] w' h' o' l' e [y] e' a' r.—Or: One dollar pays for the American Agriculturist a whole year.

No. 26, *Curious Inscription*.—See page 346. Answer: Or cattle to rub their tails against!

"Awfully Crowded."

The little boy who tried to put into his new pocket three oranges, two apples, a big cake, some chestnuts, his ball, a knife, and his spelling book, was just about as badly off as the editors are this month. They had prepared lots of nice things, good hints, stories, pictures, puzzles, names of those answering problems, etc., etc., but that frightfully long, though very useful Index, has "filled up the pocket" and crowded out these good things. Well, we shall have plenty of room for the next eleven months.

NEW PREMIUM LIST, For 1862---Vol. XXI.

Or Pay to Voluntary Agents who will attend to collecting names of new and old subscribers to the *Agriculturist*, and forwarding them to the Office.

Table of Premiums for 1862.

Names of Premium Articles.

Names of Premium Articles.	Price of Premiums.	Names at \$1 each.	Names at 80 cts. each.
2—Clothes Wringer, No. 2.....	\$7 50	18	37
3—Clothes Wringer, No. 1.....	\$10 00	23	48
4—Sewing Machine, (Wheeler & Wilson).....	\$45 00	90	130
5—Sewing Machine, (Wheeler & Wilson).....	\$35 00	69	98
6—Aneroid Barometer.....	\$7 50	19	44
7—Hydropult.....	\$12 00	30	48
8—Five Octave Melodeon (best).....	\$75 00	125	237
9—4½ Octave Melodeon (best).....	\$60 00	104	182
10—Four Octave Melodeon (best).....	\$45 00	90	130
11—New Cyclopaedia, 16 volumes.....	\$48 00	96	140
12—Worcester's Unabridged Dictionary.....	\$7 50	17	40
13—Five back Volumes <i>Agriculturist</i> , <i>p.p.</i>	\$5 69	16	39
14—Four do do do do.....	\$4 48	13	26
15—Three do do do do.....	\$3 36	10	20
16—Two do do do do.....	\$2 24	10	15
17—One do do do do.....	\$1 12	10	10
18—Winsor & Newton's Paints.....	\$2 50	20	20
19—Osborn & Hodgkinson's Paints.....	\$1 50	15	15
20—Hand Corn Shelter (best).....	\$6 50	21	40
21—Straw and Hay Cutter (best).....	\$8 00	16	30
22—Best Subsoil Plow (2 horse).....	\$8 00	24	48
23—Various Books—See terms below.....			
24—Boy's Chest of Tools.....	\$8 00	18	36
25—Youth's Chest of Tools.....	\$13 00	28	60
26—Gentleman's Chest of Tools.....	\$20 00	43	80

Experience has proved that it is a benefit to the subscribers themselves, as well as to the Publisher, to have an Agent at every Post Office, to attend to collecting the names and subscriptions of old subscribers, and to present the advantages of the paper to those not yet acquainted with it. But to employ and commission a Special Agent in every neighborhood throughout the country, is out of the question. We therefore offer certain good articles, the value proportioned to the number of names sent in, and leave them open to every person disposed to attend to the business, in the locality where he may be known to be a reliable man. The pay offered for a year to come is very large, but perhaps none too much so for the times. By giving the articles offered we can make the pay much larger than if in money, because we have facilities for getting these articles at a low rate. Besides, the advertising thus given to the manufacturers, induces them to bear a considerable portion of the expense on the articles we need for premiums.

In selecting articles for premiums, we have aimed to get such as are useful, and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made, or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

Any extra specimen copies, or show bill, needed by canvassers, will be freely furnished.

Only one premium can be paid on the same subscriber.

We make no distinction between new and old subscribers, but it is expected that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

The offer of extra numbers to new subscribers received now, makes it practicable to begin collecting names at once. Indeed, these numbers are an extra inducement.

Every person collecting names for premiums, should send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent—one of them marked at the top "For Premiums," and also with the name of the sender.

The premiums are offered for subscribers for Volume XXI (1862), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any club is made up—if duplicate lists are sent.

Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Clubs need not be confined to one Post Office.

No premium is sent till specifically asked for, as we have many friends who send in large lists but who will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

It is believed that all can recommend this journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, out-spoken, and reliable.

ble, the special friend, advocate, and promoter of the farmer's interests, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in the next Volume, than in any preceding one. *Onward, upward*, is our motto.

DESCRIPTION OF THE PREMIUMS.

Premiums. 2, 3.—Wringer Machine.

We place this first, for it is nearly new, and one of the most useful articles for every family. We had one of the first made, and have used it over a year with the highest satisfaction. It completely does away with the hard straining work required to wring out garments by hand. It does not twist and break the fibers of the clothes, but simply presses them between two elastic India-rubber rollers, which are moved by a crank, and whether large or small pieces, they come out dryer than when wrung by hand. The saving to garments would soon pay the cost of the implement, to say nothing of the saving of woman's labor. The machine is set upon the side of any tub; the garments drop out into a basket. A child can quickly wring out a tub full of clothes—They are of three sizes.—No. 2, costing \$7.50, is just the thing for common family use. This we present to any one sending us 18 subscribers for the *Agriculturist*, at \$1 each, (or 37 at the lowest club price of 80 cents).—No. 3, costing \$5, is thrown out for reasons given on page 343. No. 2 is preferable.—No. 1, costing \$10, is adapted to larger families and Hotels. We will present it to 23 subscribers at \$1 each, (or 48 at 80 cts. each).—We are glad to be able to present this implement as a premium on such liberal terms. One or more clubs for a No. 2 might be made up in almost every neighborhood.

Premium No. 4.—Sewing Machine.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person sending them to *Wheeler & Wilson's* best \$45 Sewing Machine, (including Hemmer), new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by nearly four years' use in our own family, in connection with other machines. We want no better.—The prolongation of life, the saving of health and strength to our females, and the better physical vigor thus secured to the next generation, render the Sewing Machine one of the most desirable additions to the household.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using go with each machine.

Premium No. 5.—Sewing Machine.

69 Subscribers at \$1 each, (or 98 at 80 cents each,) will entitle the person procuring them to *Wheeler & Wilson's* \$35 Sewing Machine, including a set of Hemmers. This is the best machine of its kind, (sewing with one thread,) and has several points superior to other machines. It is neat, well made, simple in its operation; and having tested one in our own family for more than a year, we think highly of it, and can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of Hemmers, because those used with this machine are very simple and effective, and should go with every machine sent out.) The machines given as premiums, will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium No. 6.—Barometer.

19 Subscribers at \$1 each, (or 44 at 80 cents each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, (Price \$7.50.) This is a good, portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. We have had one in use for nearly two years, and find it not only accurate, but an admirable weather prophet. Scarcely a rain storm or gale of wind has occurred, that has not been heralded by our barometer. Each instrument is packed in a neat leather case, 6 inches square, and 4 inches deep, and this, surrounded by cotton, is enclosed in a wooden box, ready to be carried anywhere by express or otherwise.

Premium No. 7.—Hydropult.

30 Subscribers at \$1 each, (or 48 at 80 cts. each,) will entitle the person making up the club to the *Hydropult*, (Price \$12,) a very useful hand implement for carrying instantly to any desired point, to throw water from a pail, tub, cistern, or other receptacle, for extinguishing fires, watering plants, washing carriages, etc., etc. A stream can be thrown up to the third story windows. It is supplied with jet pipe and rose or sprinkler; is made of brass, and is durable. It weighs only 8 lbs., and can be packed in small compass to go by express or otherwise.

Premium No. 8.—Melodeon.

125 Subscribers at \$1 each, (or 237 at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* \$75 Melodeons (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly, by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, or other school, and an instrument thus secured for a church or school-room. This was done in several instances the past year.

Premium No. 9.—Melodeon.

104 Subscribers at \$1 each, (or 182 at 80 cents each,) will entitle the person getting up the club to one of *Geo. A.*

Prince & Co.'s \$60 Melodeons (4½ octaves.) See No. 8.

Premium No. 10—Melodeon.

90 Subscribers at \$1 each, (or 130 at 80 cents each,) will entitle the person getting up the club to one of Geo. A. Prince & Co.'s \$45 Melodeons (4 octaves.) See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium No. 11—New Cyclopaedia.

105 Subscribers at \$1 each, (or 140 at 80 cents each,) will entitle the person getting up the club to a set of Appleton's New American Cyclopaedia, now in course of publication, consisting of sixteen large volumes of 760 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining four will be furnished as fast as issued. The original design of this work was 15 volumes, but it is found that the immense mass of matter will require 16 large volumes. The work is sold at \$3 per volume, or \$38 for the set. To no better purpose could any one devote the coming Fall and Winter evenings than to raising the club of subscribers required to secure this most valuable work for himself and family.

Premium No. 12—Best Dictionary.

18 Subscribers at \$1 each, (or 40 at 80 cts. each,) will entitle the person getting up the club to a copy of the large *Pictorial Unabridged Edition of Worcester's Dictionary*, (Price \$7.50.) This now stands confessedly the most valuable Standard Dictionary published. It weighs nearly 10 lbs.; is 12 inches long, 10 inches wide, nearly 4 inches thick, and contains 1854 pages of 3 columns each, giving the spelling and pronunciation, with full explanations, of every word in the English Language, and as a source of general information on all subjects, stands next to the Cyclopaedia. The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country. The United States Express Company have kindly agreed to deliver the book at very moderate rates to any part of the country where their lines extend. It can also go by mail to any place within 3,000 miles for \$1.60, prepaid postage. Except to remote points, the expense will be much less by Express. (Persons living off from express lines, can usually have it delivered to some person on the line, and send for it at their convenience.)

Premiums Nos. 13 to 17—Back Volumes.

These premiums (13 to 17,) will enable any one to secure the previous excellent volumes of the *American Agriculturist*, as far back as Volume XVI. We have stereotype plates and can print any number desired of the English Volumes 16, 17, 18, 19, and 20, and of the German Volumes 18, 19, and 20. These will be sent in clean, new numbers, each volume by itself, with index complete, and be forwarded postpaid. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired. They will be presented as in the table above, viz: For 16 subscribers at \$1 each, (or 30 at 80 cents each,) we will present five volumes.—For 13 Subscribers at \$1 each, or 36 at 80 cents each, four volumes.—For 10 Subscribers at \$1 each, (or 20 at 80 cents each,) three volumes.—For 15 Subscribers at 80 cents each, two volumes.—For 10 Subscribers at 80 cents each, one volume.—Let every one selecting these premiums be careful to take just which back volumes are desired.

Premium No. 18—Paints.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of Winsor & Newton's Water Color Paints—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid anywhere within 8000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 81 cents for extra postage above the 6 cents per ounce which we pay.)

Premium No. 19—Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of Osborne & Hodgkinson's Water Color Paints, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium No. 20—Corn Sheller.

21 Subscribers at \$1 each, (or 40 at 80 cents each,) will entitle the person getting up the club to one of the best \$6½ Hand Corn Shellers. This is a convenient, useful implement, very frequently called for. We give the best implement to be obtained for the price.

Premium No. 21—Hay Cutter.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to one of the best \$8 Straw and Hay Cutters. This is a useful implement, needed wherever horses and cows are kept.

Premium No. 22—Subsoil Plow.

24 Subscribers at \$1 each, (or 48 at 80 cents each,) will entitle the person getting up the club to the best \$8 Subsoil Plow (two-horse), a very desirable implement.

Premium No. 23—Good Books.

Here is an opportunity to get a good library at little expense. Any person getting up a club of 16 or more names may choose any desired Books from the list advertised on page 351, to the amount of 12½ cents for each name forwarded at 80 cents, (or 23½ cents for each name sent at \$1.) and the books will be delivered to the recipient free of all expense for postage. 757 Persons making up a club for any of the preceding premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE.
New-York, Tuesday Morning, Nov. 19, 1861.

CURRENT WHOLESALE PRICES.

	Oct. 18.	Nov. 19.
FLOUR—Super to Extra State	\$5 30 @ 5 80	\$5 50 @ 6 00
Superfine Western	5 30 @ 5 40	5 50 @ 5 65
Extra Western	5 50 @ 7 00	5 70 @ 7 00
Extra Eastern	5 50 @ 7 00	5 70 @ 7 00
Super, to Extra Southern	6 00 @ 8 75	5 75 @ 8 50
RYE FLOUR—Fine and Super.	2 75 @ 4 00	3 10 @ 4 40
CORN MEAL	2 75 @ 3 24	2 85 @ 3 30
WHEAT—Canada White	1 38 @ 1 43	1 40 @ 1 50
Western White	1 38 @ 1 45	1 40 @ 1 53
Southern White	1 40 @ 1 58	1 45 @ 1 55
Yellow do.	1 15 @ 1 36	1 20 @ 1 44
CORN—Yellow	62 @ 64	69 @ 72
White	64 @ 66	70 @ 72
Mixed	57 @ 61	65 @ 67
OATS—Western	36 @ 39	46 @ 47
State	38 @ 39	47 @ 48
RYE	70 @ 78	82 @ 84
BARLEY	60 @ 70	65 @ 87½
HAY, bales, per 100 lbs.	45 @ 75	60 @ 85
COTTON—Middlings, per lb.	21½ @ 22	24 @ 24½
RICE, per 100 lbs.	7 00 @ 7 50	6 75 @ 7 50
HOPS, crop of 1861, per lb.	15 @ 22	15 @ 23
FEATHERS, Live Geese, p. lb.	32 @ 35	30 @ 36
SEED—Clover, per lb.	8 @ 9	Nominal
Timothy, per bushel	1 75 @ 2 00	Nominal
GENSIO, per lb.	72 @ 9½	70 @ 9½
MOLASSES, New-Orleans, p. gal.	50 @ 55	50 @ 55
COFFEE, Rio, per lb.	14½ @ 17	14½ @ 17
TOBACCO—Kentucky, &c, p. lb.	8 @ 15	8 @ 16
Seed Leaf, per lb.	5 @ 20	6 @ 22
WOOL—Domestic fleece, p. lb.	38 @ 42	40 @ 50
Domestic, pulled, per lb.	32 @ 42	33 @ 47
GENSIO, per lb.	60 @ 70	65 @ 87½
OIL CANS, per tin	31 00 @ 38 00	30 00 @ 36 00
PORK—New Mess, per bbl.	14 75 @ 15 50	13 50 @ 14 50
Prime, new, per bbl.	9 75 @ 10 00	9 00 @ 9 50
BEEF—Repacked mess	9 25 @ 11 00	9 25 @ 12 00
LARD, in bbls, per lb.	8½ @ 9½	8½ @ 9½
BUTTER—Western, per lb.	8 @ 11	11 @ 15
State, per lb.	11 @ 15	15 @ 20
CHEESE—per lb.	5 @ 7	5 @ 7½
EGGS—Fresh, per dozen	14 @ 16	16 @ 17½
POULTRY—Fowls, per lb.	7 @ 8	8 @ 11
Geese, per b.	5 @ 8	5 @ 8
Ducks, per b.	8 @ 12	8 @ 12
Turkeys, per lb.	11 @ 12	8 @ 12
Partridges, per pair	50 @ 55	30 @ 60
GENSIO, per lb.	60 @ 70	65 @ 87½
Dried Apples, per lb.	5 @ 6½	5 @ 6½
Dried Peaches, per lb., peeled	10 @ 12	15 @ 18
Dried Raspberries, per lb.	12 @ 13	15 @ 16
POTATOES—Merces, p. bbl.	1 50 @ 2 00	1 50 @ 2 00
Peachblows, per bbl.	1 25 @ 1 50	1 38 @ 1 50
Western Reds, etc., per bbl.	1 12 @ 1 25	1 12 @ 1 25
Nova Scotias, per bush.	3 00 @ 3 50	3 00 @ 3 50
Sweet Delaware, per bbl.	2 00 @ 2 50	3 00 @ 3 50
ONIONS—Red, per bbl.	1 00 @ 1 25	88 @ 1 00
White, per bbl.	1 25 @ 1 75	1 25 @ 2 00
TURNIPS—Rutabaga, per bbl.	75 @ 1 00	50 @ 75
SQUASH—Marrow, per bbl.	62 @ 1 00	75 @ 1 25
APPLES—Common, per bbl.	1 25 @ 1 50	1 50 @ 2 00
Apples—good, per bbl.	2 00 @ 2 50	2 50 @ 3 00
CHERRIES—per bushel	2 00 @ 2 25	3 00 @ 3 25
HICKORY NUTS—per bushel	1 00 @ 1 25	75 @ 1 12

TRANSACTIONS AT THE NEW-YORK MARKETS.
RECEIPTS. Flour, Wheat, Corn, Rye, Barley, Oats.
27 days this month \$36,000 7,148,000 3,109,000 119,600 344,000 712,500
25 days last month \$39,000 3,617,000 3,812,000 74,100 158,800 427,000

SALES. Flour, Wheat, Corn, Rye, Barley.
27 days this month 785,000 8,998,000 4,521,000 123,300 335,000
25 days last month 616,000 6,289,000 4,708,000 115,950 136,000

EXPORTS FROM NEW-YORK, JAN. 1, TO NOV. 13.
Flour, Wheat, Corn, Rye, Oats.
1861.....2,431,079 22,361,903 10,407,300 675,499 153,221
1860.....1,537,986 10,306,292 2,667,651 450 102,134
Increase...993,093 12,055,611 7,739,649 675,499 53,087

EXPORTS FROM PHILADELPHIA, JAN. 1, TO NOV. 1.
Flour, Wheat, Corn, C. Meal, bbls.
1861.....329,512 1,443,568 703,045 25,591

RECEIPTS AT TIDE WATER (ALBANY) FROM OPENING OF NAVIGATION TO NOV. 14.
Flour, Wheat, Corn, Oats, Barley, Rye.
1861...1,221,200 23,054,700 20,559,600 4,806,900 1,703,900 725,000
1860...1,051,900 15,771,600 13,409,300 5,918,600 2,393,000 304,500
1859...610,600 3,333,200 2,483,700 4,677,500 1,909,200 320,000

RECEIPTS AT BUFFALO, JAN. 1, TO NOV. 1.
Flour, Wheat, Corn, Oats, Barley, Rye.
1861...6,557,815 21,819,565 18,568,948 1,619,709 243,116 273,344
1860...4,727,750 13,783,044 10,677,832 1,010,348 216,362 74,215

TRANSACTIONS AT CHICAGO, JAN. 1, TO NOV. 9.
RECEIPTS—Flour, Wheat, Corn, Oats, Barley, Rye.
1861...1,302,269 16,563,950 23,319,056 1,292,245 479,761 417,963
1860...542,812 13,070,425 15,189,261 1,503,720 505,018 281,125

SHIPMENTS—Flour, Wheat, Corn, Oats, Barley, Rye.
1861...1,334,328 13,618,296 23,215,956 1,303,012 444,204 1,603,727
1860...520,000 11,800,954 13,368,062 1,011,429 218,578 99,405

TRANSACTIONS AT MONTREAL, JAN. 1, TO NOV. 7.
RECEIPTS—Flour, Wheat, Corn, Peas, Oats, Barley.
1861...517,693 6,293,492 1,202,226 1,038,656 51,133 67,531
1860...554,038 2,424,833 133,274 746,273 57,063 27,241

EXPORTS—Flour, Wheat, Corn, Peas, Oats, Barley, Oats.
1861...564,608 5,250,315 1,193,704 1,445,556 311,101 1,819
1860...261,267 1,535,057 24,387 1,219,556 305,732 252

We have but brief space for remarks. The above very comprehensive tables, carefully prepared for the *Agriculturist*, exhibit at a glance the unprecedented activity in the Bread-stuff Markets, both at the seaboard, and at the principal interior cities. A comparison of the business this year with last, shows a large increase this year, though last year's transactions included the active market period immediately following the great harvest of 1860. The first table gives the transactions for 27 business days at this market. Both the Receipts and the Sales have been enormous. The sales of wheat alone have reached very nearly nine million bushels. Of wheat and flour the sales have been equivalent to 12,963,099 bushels of wheat, an average of 450,111, or almost half a million bushels for every day. On Monday, Nov. 4, the sales at our Exchange of wheat alone was 514,000 bushels. One firm bought 200,000 bushels on English account. Large as have been the sales, the trade has been greatly

limited by want of supplies, and the lack of ship bottoms. The Canals and Railroads have been taxed to their utmost, and large sales have been made of grain to arrive, so urgent has been the demand. Ocean ships are now more abundant, and the amount of trade depends only upon the amount of supplies from the interior. Every day that the canals can be kept open, will be of great importance to the country.—The tables of prices, above, show a general advance in flour and all kinds of grain. Indian Corn was run up very rapidly, 8 to 10 cents per bushel, but fell yesterday 2c. per bushel, still leaving a marked advance, however. The Provision Markets have been irregular. Hog products (pork and lard) close in favor of buyers. Beef has been unsettled in price. Butter has advanced under a brisk foreign demand. Cheese in fair request. Cotton has advanced, and business has been light. Hay and Tobacco active and firm. Rice dull. Wool in brisk demand at full rates. Hops in fair request, and prices well sustained.

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been heavily supplied again this month, the receipts being 21,071, or an average of 5,268 per week. Prices advanced a shade the first week, fell ¼c. the second, advanced ¼c. the third, and declined ¼c. the fourth, when, with 5,945 bullocks offered, prices were 8½c. per lb. estimated dressed weight, for good to premium qualities, 7c. for fair to good, 5½c. for poor; average of all sales 6½c. c. Market closed heavily. The largest receipts were Oct. 29, numbering 6,100, or more weight of beef than was ever previously received here in a single week.

VEAL CALVES.—Receipts for a month 2,389; averaging 577 per week. Present prices 4½c. per lb. live weight.

SHEEP AND LAMBS.—Receipts for a month, 52,747, or an average of 13,182 per week. Present prices equal to 3½c. @ 4½c. per lb. live weight, or \$3.40 per head for fair killing sheep.

LIVE HOGS.—Heavy receipts, viz., 68,023 for a month, an average of 17,006 per week. For week ending Nov. 15, the receipts reached 26,508, the largest since Dec. 1859. Prices rule low, being now 3½c. @ 4½c. per lb. live weight for corn fed, and 3¼c. @ 3½c. for still fed. Large receipts of dressed hogs. Packers are beginning to operate.

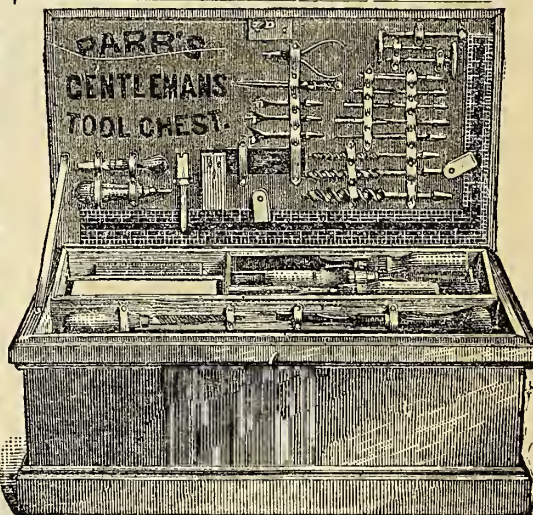
The Weather has continued remarkably mild, the temperature having sunk to the ice point not more than three times to this date. The leaves are now (Nov. 15) still green on many trees. The first frost occurred Oct. 25, a later date than in any other year since 1830. A light fall on Nov. 15, was the first and only snow thus far.—Our DAILY WEATHER NOTES, condensed, read: October 19, cloudy. A. M. rain P. M.—20, 21, clear, fine—22, cloudy, rain at night—23, light rain—24, clear, cool—25, cool, first frost of season this morning—26, cloudy, rain at night—27, to 29, clear, cool—30, cloudy, slight rain—31, clear.—November 1, clear, fine—2, heavy N. E. rain storm during day and night. 5.06 inches rain fell! Wind heavy, and tides higher than for 20 years previous; much damage done to shipping—3, 4, 5, clear, fine—6, cloudy A. M. rain P. M.—7, 8, clear, cool—9, thunder shower A. M. ending with steady rain—10, clear, cool—11, light rain—12, 13, clear—14, cloudy, 1 inch snow at night, but mostly melted at 10 A. M.—15, cloudy—16, to 18, clear, cool.

Rain Fall from Oct. 15 to Nov. 15, 8.06 inches.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.
Fifty cents per line of space for each insertion.
One whole column (45 lines), or more, \$60 per column.



What every Farmer, Mechanic, Amateur, and well regulated Household wants.

ONE OF PARR'S TOOL CHESTS,

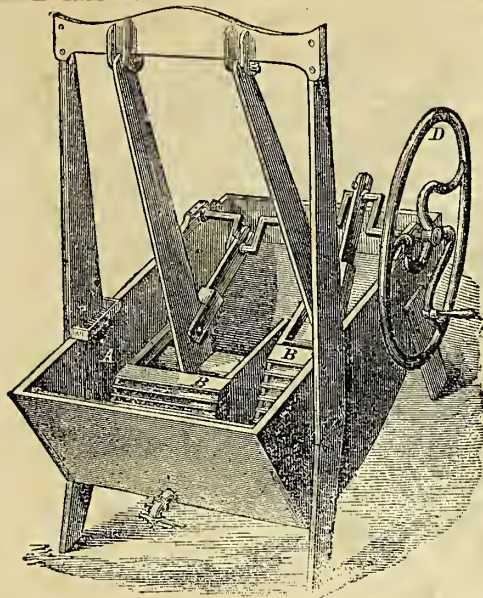
Fitted up with a complete assortment of Tools, such as Saws, Planes, Hatchets, Hammers, Chisels, Draw-Shaves, Rules, Files, Augers, &c., &c., &c.
Will pay for itself in one year in saving of Carpenter's bills.

Planter's size, contains 92 tools, price \$30 each.
Gentlemen's do. do. 80 do. do. 20 do.
Youth's do. do. 62 do. do. 13 do.
Boy's do. do. 41 do. do. 8 do.

Made of the best Cherry and Ash, exterior French polished, with brass trimmings and lifting handles, and drawers to contain every article. Superior tools sharpened and set ready for use. Packed in cases and shipped to any address on receipt of the price, by the Manufacturer and Inventor.

Also, Juvenile Tool Chests for Holiday Presents, containing 15 tools, price \$4.00 each.
10 do. do. 8.00 do.
8 do. do. 2.00 do.

GEORGE PARR, Buffalo, N. Y.



The NONPAREIL WASHING MACHINE

Has been in operation since April, 1861, and the severe and varied tests, to which it has been subjected, in country and city families and laundries, demonstrate that two-thirds the labor and time, and half the soap required in hand washing, are saved by its use; and no injury can possibly result to the most delicate fabric from its action. It is a squeezing machine, and it washes with equal effectiveness a cambric handkerchief, or a bed quilt.

The machine is carefully made of the best materials, and its strength and durability will be found in keeping with its extreme simplicity. There is nothing in its construction liable to get out of order; and no training is required to enable the least skillful person to work it satisfactorily. A girl twelve years old can operate it.

Three sizes of family machines are made, their capacity being about the bulk of five, eight, and twelve shirts respectively. Prices: No. 1, \$10; No. 2, \$14; No. 3, \$17. Machines to go by power, are manufactured for the use of Hotels and Laundries.

Further information and machines can be procured from the proprietors, **OAKLEY & KEATING**, 73 South-st., New-York.

MANUAL OF AGRICULTURE.

Prepared under the direction and published with the sanction of the

Massachusetts State Board of Agriculture.
An Elementary Treatise, comprising the Principles and Practice of Agriculture, including the Composition of Soils, the Atmosphere, Water, Manures, &c., the Preparation of Lands, the Culture of Special Crops, the Principles of Rotation, the Diseases and Enemies of Growing Plants, the Choice and Management of Farm Stock, and the General Economy of the Farm and the Household.

For the use of Schools, Families and Farmers.
BY GEORGE B. EMERSON,

For many years connected with the Massachusetts Board of Education, and author of a valuable Report on the Trees and Shrubs of Massachusetts—and
CHARLES L. FLINT,

Secretary of the Massachusetts State Board of Agriculture, author of a Treatise on Milk Cows and Dairy Farming, Grasses and Forage Plants, &c.

Illustrated by many Engravings.

This work supplies a want long and deeply felt in our Public Schools, and the fidelity, care and practical good sense with which it has been prepared can not fail to commend it to general favor. The Board of Agriculture of Massachusetts, after a most careful and thorough revision, have given to this Manual the following full and hearty endorsement:

Resolved, That this Board approve of the Manual of Agriculture, submitted by its authors, Messrs. Geo. B. Emerson and Charles L. Flint, and recommend its publication by these gentlemen, as a work well adapted for use in the schools of Massachusetts.

Price 75 cents. Copies sent by mail on receipt of the price. A liberal discount made to Schools, Academies or Public Institutions.

A liberal discount will also be made to Agents. Every farmer and every man who cultivates a garden should have this book.

SWAN, BREWER & TILESTON,

131 Washington street, Boston, Mass.

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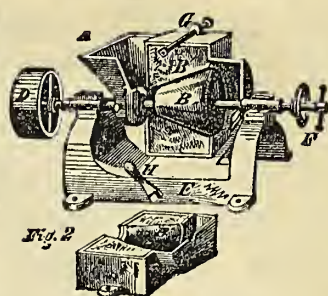
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Contents for December, 1861.

Accounts—Balance now.....	364	Hominy—Indian.....	373
Animals—Insurance on.....	362	Horses—Graining Colls.....	362
Animals' Comfort.....	363	Humbugs in the city.....	365
Apples—Keeping.....	367	Hyacinths in Glasses.....	369
Bag Holder—Old's.....	362	Insects—Hens vs. Bugs.....	369
Bees—Apiary in Dec.....	354	Laurel—Transplanting.....	368
Bees—Truant; Breeds.....	363	Leaves—Copying.....	373
Biscuit—Drop.....	373	Lime—Oyster Shell.....	360
Boys' and Girls' Expedi- ent—Editor with his Young Readers; The Christmas Tree.....	360	Luxuries—Cheap.....	365
Christmas Soldiers; Thanks to Little Angels—Prob- lems.....	374-375	Market Review.....	376
Boys—Something for.....	355	Moles—Blanking.....	360
Breadstuffs—Sales.....	358	Moles—Destructive.....	369
Buckwheat Cakes.....	372	Orchard and Nursery.....	354
Calendar of Operations.....	354	Pancake—German.....	373
Cattle—Care of Cows.....	362	Parasps—How to Cook.....	372
Cattle—Chewing Bones.....	359	Plow—Fowler's.....	366
Children—Bad Practice.....	372	Pork—Curing Profitable.....	364
Corn Bread—Another.....	373	Potato Disease.....	361
Corn Bread Exhibition at this Office—\$21 in Pre- miums Offered.....	372	Potatoes—Preserving.....	361
Cuttings—Rose.....	371	Potatoes—Seed—French Treatment of.....	361
December—Suggestions, Sheep.....	371	Premiums offered.....	375
Drills vs. Hills.....	360	Pumpkins—King of.....	369
Farm Work in Dec.....	354	Recipes—Baked Corn Pudding; Corn Oys- ters; Breakfast Buns; Brown Betty.....	373
Feeding Boxes v. Racks.....	363	Rock Lifter—Bolles'.....	353
Flower Garden and Lawn.....	354	Roots—How to Feed.....	361
Fruit Cellar—Improved.....	367	Sad Iron—Flat Iron, etc.....	371
Fruit Gatherer.....	367	Seed List for 1862.....	355
Fuel—Hint for Dec.....	364	Seed—Selecting, etc.....	360
Garden—Kitchen etc.....	354	Shaving Easy.....	373
Goat—Plea for the.....	363	Sheep—Hint to Breeders.....	363
Grain—Feeding better than Selling.....	364	Sheep—Wanted.....	363
Grape Notes.....	367	Socks—Government Pat- tern.....	371
Green and Hot-Houses.....	354	Soil—Burning the.....	360
Green-Houses for the People—No. III—Inde- pendent Green-House —Heating.....	361	Sorghum Syrup in Ill.....	354
Guess Work in Farming.....	364	Telegraph to Pacific.....	358
Hard Times.....	371	Tomato Culture.....	369
"Homestead" Transferred to <i>Agriculturist</i>	358	Tomatoes—Trellis.....	369
		Trees and Plants Protec- tion of.....	368
		Trees—Moving Large.....	368
		Trees—V ariegated Leaved Maple.....	368
		Vegetable—New.....	369
		War Times—Readings in.....	365
		Whitewash for Roofs.....	359

INDEX TO "BASKET" ITEMS.

Apples—Illinois	357	Orchard—Large Pear.....	357
Aslies—Save Coal	357	Pears—Bicknell.....	356
Bean—Chinese Climbing.....	356	Pears—Keeping.....	356
Beans—Self Drying.....	356	Potatoes—Planting in Fall.....	356
Beef, etc.—Pickle for.....	357	Poultry—A Neighbor's.....	357
Beets—Yield of.....	356	Poultry Book—Best.....	357
Bird Laws of N. Y.....	357	Poultry—Feed.....	357
Butter—Sweet in Winter.....	357	Rhubarb Seed Free.....	355
Cauliflowers—Heading.....	356	Seeds—No. in a Bushel.....	356
Celery between Corn.....	357	Seeds—Vitality of.....	356
Cement Pipes.....	356	Shoop—Leicester versus	
Corn Silk Medicinal.....	357	Bakewell.....	357
Dahlia—Retrograding.....	357	Sheep—Prolific.....	357
Dahlia—Variegated.....	357	Sorrel—To Destroy.....	356
Fairs—Paying Judges.....	357	Squash Vine—Long.....	356
Flax and Cotton.....	357	Strawberries in Nov.....	356
Flowers—Everlasting.....	356	Strawberries Sex of.....	357
Flowers—Cactus, Prairie.....	356	Swine—Good Trough.....	357
Frost in the Garden.....	357	Swine—Prolific Sow.....	357
Grapes—Kelley's Island.....	357	Subscribers—150 Lost.....	353
Grapes—Second Crop.....	356	Thistles—Tax on.....	356
Grass—Orchard.....	356	Toad—Horned.....	357
Humburg in N. H.....	357	Trees—Barren Pears.....	356
Hydrangeas not Hardy.....	356	Trees—Best Pears.....	356
Insects—Slugs on Pears.....	356	Trees—Budding Quince.....	356
Insects—Weevil.....	356	Trees—Paint Injurious.....	356
Lentils.....	356	Turnips—Waite's Eclipse.....	356
Minnesota Crops.....	357	Washing Machine—Me-	
Manure—Salt in.....	357	ropolitan.....	357
Manure—Wool Wastic.....	357	Whitewashing—Hint on.....	356

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* Fort Beauregard. ** Fort Walker. Rough shading on interior of Map indicates Swamps.

Above we present a map of a locality which is of special interest just now. We had intended to give a larger and much better engraved map, but the Index has so crowded everything in this number, that as a last resort, we use the above limited map. It will, however, indicate pretty well the scene of the present operations of our National Fleet.—If it shall seem to be the general wish of our readers, we can have engraved and present, from time to time, in the next volume, beautiful Maps of some of the more important localities, occupied by the contending armies. The good quality of our white paper, and of the printing, enable us to give much better maps than those usually found in daily and weekly journals. A dozen full page maps during the year would doubtless be worth to every one of our readers more than the entire annual cost of the *Agriculturist*.

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